ANNUAL NEEDS and LIVELIHOOD ANALYSIS

2014-2015

July 2015

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Abbreviations

ANLA	Annual Needs and Livelihoods Analysis
ARI	Acute Respiratory Infection(s)
BSFP	Blanket Supplementary Feeding Programme
CES	Central Equatoria State
CFSAM	Crop and Food Security Assessment Mission
CPI	Consumer Price Index
CSI	Coping Strategies Index
EES	Eastern Equatoria State
FAO	Food and Agriculture Organization of the United Nations
FCG	Food Consumption Group
FCS	Food Consumption Score
FEWS NET	Famine Early Warning System Network
FMD	Foot and Mouth Disease
FSC	Food Security Cluster
FSMS	Food Security Monitoring System
GAM	Global Acute Malnutrition
GDP	Gross Domestic Product
GoSS	Government of South Sudan
HIV	Human Immunodeficiency Virus
HH	Household
IDPs	Internally Displaced Persons
IPC	Integrated Phase Classification
IYCF	Infant and Young Child Feeding
MAFCRD	Ministry of Agriculture, Forestry, Cooperatives and Rural Development
MAM	Moderate Acute Malnutrition
MLFI	Ministry of Livestock and Fisheries Industries
MOCII	Ministry of Commerce, Industry and Investment
MOH	Ministry of Health
MT	Metric Ton
MUAC	Mid-Upper Arm Circumference
NBS	National Bureau of Statistics
NBS	Northern Bahr el Ghazal State
NGOs	Non-Governmental Organizations
NSFR	National Strategic Food Reserve
P4P	Purchase for Progress
SAM	Severe Acute Malnutrition
SSP	South Sudanese Pounds
SFP	Supplementary Feeding Programme
SSRRC	South Sudan Relief and Rehabilitation Commission
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for Coordination of Humanitarian Affairs
UNS	Upper Nile State
VAM	Vulnerability Analysis and Mapping Unit
WASH	Water, Sanitation and Hygiene

WBS	Western Bahr el Ghazal State
WES	Western Equatoria State
WHZ	Weight-for-height
WFP	World Food Programme

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Executive Summary

The food security situation in South Sudan continued to be worrisome through 2014 and the early quarter of 2015, particularly in Greater Upper Nile states. While there is a temporary improvement of food security situation at the time of writing as a result of the latest harvest from October 2014, households stocks are unlikely to last through February 2015, especially in the conflict-affected areas.

A significant proportion of the population remains extremely vulnerable to food insecurity due to direct and indirect impact of the conflict, disruption of livelihoods, high dependence on markets and exposure to food prices volatility. The most vulnerable populations include the IDPs, returnees and those who did not have the opportunity to plant and harvest in the GUN states. In 2014, food insecurity remained high also in other states such as Lakes, Northern Bahr el Ghazal, Warrap and Western Bahr el Ghazal.

Alongside the conflict, climatic constraints affected rural populations in 2014. Below average harvest was attained in Greater Upper Nile (Jonglei, Unity and Upper Nile states) as a result of the significant reduction on the areas cultivated due to both the conflict and erratic rainfall patterns between May and July, associated to floods later in the season. Overall, only 65-75% of farming households cultivated in 2014, and the cultivated area contracted by 25% to 50% of normal.

Overall, the cereal deficit until the next harvest in late 2015 is estimated at nearly 249,000 MT. Whilst all the states in the Greater Equatoria region and Western Bahr el Ghazal had production surpluses, significant crop production deficits were observed in the rest of the states, with peaks in the Greater Upper Nile States (-308,976 MT). Livestock production in many parts of South Sudan was hindered by a wide range of constraints. As livestock owners in the conflict-affected areas fled the ongoing conflict, millions of animals were displaced, leading to fresh outbreaks of disease and rising tensions between pastoral groups and farmers, as well as within different pastoralist communities.

The protracted conflict is limiting market functionality and continues to hamper food availability, as well as economic and physical access to food. The depreciation of the local currency is eroding the purchasing power of households, ad notably the urban poor, the displaced and those populations in GUN who lost their livelihoods. The decreasing purchasing power due to high inflation rates also affected the South Sudanese population. According to the National Bureau of Statistics (NBS), the year-on-year overall consumer price index (CPI)[1] increased by 9.9% in December 2014 compared to December 2013, and the CPI for food and non-alcoholic beverages by 6.9%. The food inflation rose more significantly in Wau (50.8%) and Juba (4%).

Finally, seasonal trends analysis of the nutrition data in 2014 shows that global acute malnutrition remains steadily at critical levels as in 2013, with 15.9% in July and 12.5% in November. Improvements from the previous year have been registered in Central Equatoria, parts of Northern Bahr el Ghazal, Western Bahr el Ghazal, Eastern Equatoria states as well as Leer, Mayendit, Rubkona (Unity State), Fashoda (Upper Nile State) and Raja (Western Bahr el Ghazal). However, the nutrition situation remains close or above the emergency thresholds in the conflict affected areas, as well as Warrap and Northern Bahr el Ghazal states.

[1] CPI is a measure of cost of living or inflation of a specific basket of goods as compared to the base year. It measures the purchasing power of households of specific basket of goods relative to the base year.

Background

General Introduction

South Sudan continues to face enormous developmental challenges as it embarks on a socio-economic transformation after the protracted civil war. In recognition of the tasks ahead, the Government has undertaken several pragmatic changes in the policy environment. This has resulted in the formulation of the South Sudan Development Plan 2011-13, which forms the basis for sectoral and state level plans and strategies. Several states have formulated their strategic agricultural plans and have set priorities for addressing key food security and livelihood challenges. While the steps are laudable, South Sudan has experienced severe budgetary constraints following the Greater Upper Nile crisis. This has hampered economic transformation, which has in turn impeded progress towards food security and sustainable livelihoods. The humanitarian crisis in the Greater Upper Nile region has put the people of South Sudan under significant stress, resulting in about 4.6 million people food insecure by April 2015.

The year-long instability in Greater Upper Nile has been affecting the entire country's economy in many ways, hampering the traditional coping systems of individuals and communities. These trends have pushed development partners to focus more on an emergency response than a development programme. Thus, the Annual Needs and Livelihood Analysis (ANLA) 2014 adopted a slow pace to take advantage of the fast changing situation, as described by the Integrated Food Security Phase Classification (IPC), and latest analysis from the Food Security Monitoring System (FSMS) and the Crop and Food Security Assessment Mission (CFSAM) in 2015.

The 2014 ANLA focuses more on the potentiality of non-conflict states and provides evidences to prepare careful development programmes.

Objectives

The overall goal is to generate the 2015 ANLA that is comprehensive enough to support needs identification, livelihood priority areas and practical solutions to address these needs. The report puts more emphasis on geographical distribution and seasonality of needs, and their specific causes. Specifically, the report aims to:

- Detail changes and improvements in food security and livelihoods at the national and state level, with key highlights at county level;
- Present state level policies and plans related to food security and livelihoods; and
- Identify programmatic implications of prevailing food security and livelihood needs, with special attention to cross-sectoral linkages, such as between food security and nutrition.

Methodology

Approach: Broad consultations were done with the Government, UN agencies and NGOs to agree on the ANLA process, objectives, timeline, and resulted in the constitution of an ANLA 2014 Technical Working Group (ATWG). This was followed by secondary data analysis, triangulated

through focus group discussions at the state-level during the FSMS and CFSAM field data collection.

The technical working group was formed based on four thematic areas as follows:

1. Humanitarian issues (i.e. conflicts, refugees, IDPs, returnees, floods) – participants included the Ministry of Humanitarian Affairs and Disaster Management (MHADM), Relief and Rehabilitation Commission (RRC), United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), USAID's Famine Early Warning Systems Network (FEWSNET) and the World Food Programme (WFP).
2. Health and nutrition issues – participants included Ministry of Health, Nutrition Cluster and WFP.
3. Agriculture, livestock and fishing – participants included Ministry of Agriculture, forestry, Cooperatives and Rural Development (MAFCRD), Ministry of Livestock and Fisheries Industries (MLFI), Food and Agriculture Organization (FAO).
4. Food Security and Vulnerability analysis (i.e. food security, market & trade) – participants included the National Bureau of Statistics (NBS), Ministry of Commerce, Industry and Investment (MCII), the WFP and FEWSNET.

The analytical process included consultations with various groups mainly members of the ATWG, and took place between December 2014 and May 2015.

Analysis and data interpretation: The ANLA strives to identify needs at the county level. The FSMS generates food security information that is representative at the state-level, but also contributes to enrich sentinel site-level data which generate information at the county-level. A convergence of evidence from quantitative analysis based on primary data (from FSMS and national surveys, M&E data) and qualitative analysis based on secondary data, key informants and focus group discussions (some of which were collected during the FSMS exercise) was used to rank counties according to vulnerability to food and livelihood insecurity.

The 2014 ANLA analysis uses primary data from FSMS, the CFSAM, and assessment report generated during the year[2]. Other data sources for situational analysis include:

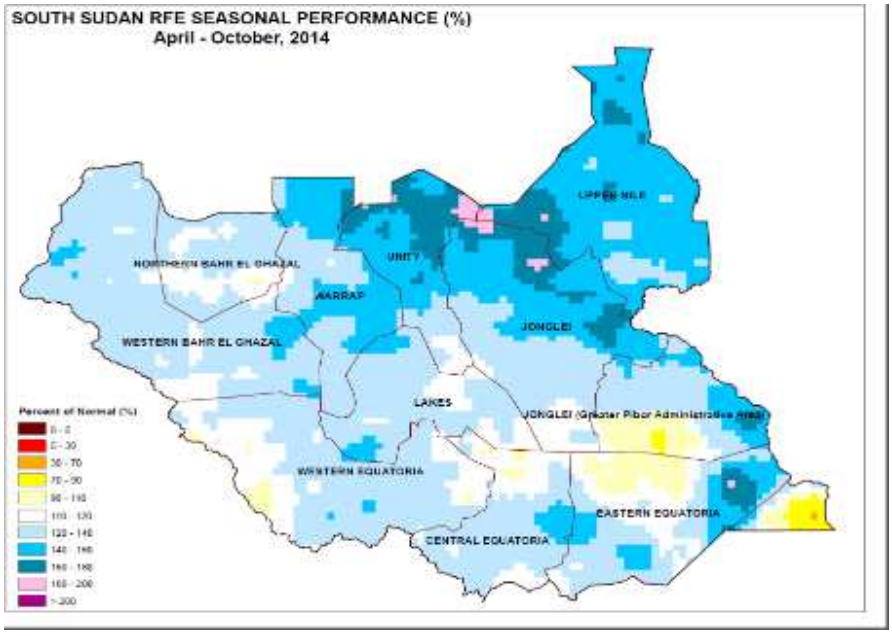
- Integrated Phase Classification (IPC)--based food security outlook;
- Secondary data from NBS: Sudan Household Health Survey (SHHS) 2006 & 2010, National Household Baseline Survey (NHBS) 2010 and Census 2009;
- SMART surveys from the nutrition cluster;
- The Report on Food Security and Nutrition in South Sudan by WFP ;
- FEWSNET rainfall information; and
- OCHA updates on the humanitarian situation.

[2] For more details see Annual Needs and Livelihoods Analysis 2011/12, South Sudan, February 2012

Overview of Seasonal climatic performance in 2014

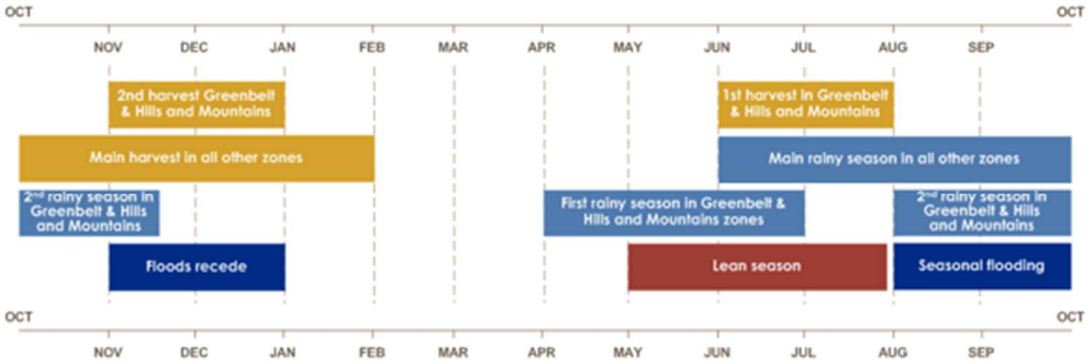
The 2014 seasonal forecast issued by the Greater Horn of Africa Climate Outlook Forum (GHACOF) was generally favourable for most parts of South Sudan for the period March to May. Average to above average rainfall was forecasted from June to October in the southern part of the country, whereas average to below average was forecasted for the northern part. These are critical periods for cropping in the country. In the bimodal cropping areas of Greater Equatoria, rains began early in March with the exception of semi-arid areas of greater Kapoeta region in Eastern Equatoria where an erratic onset and prolonged dry spell earlier in the season were observed. Pochalla and Pibor Counties in Jonglei State also experienced a dry spell between May and July. According to the recent CFSAM analysis, seasonal monitoring data including satellite evidence showed that there were early rainfall in areas of greater Bahr el Ghazal and Upper Nile and the reading was above average. This indicates that these area can expect exceptional performance of crop production in 2015. In the conflict affected areas, planting also occurred in May with replanting done in June as a result of the short dry spell that affected crops at an early vegetative stage.

Figure 1: South Sudan Seasonal Performance (%) Source: FEWSNET



Despite the forecast of average to below average rainfall, and with exception of the localized break in rainfall in June 2015 mostly in the unimodal cropping areas in the northern half of the country (i.e. areas of Rumbek East, Tonj South, Aweil North, Raja, Leer, Panyijiar, Akobo, Pochalla, Nyirol, Guit and Koch counties – see Figure 1), the rest of the country experienced average to above average rainfall which progressively supported cropping season. Heavy rains and river outbursts during this period in some areas of Northern Bahr el Ghazal, Panyijiar and Nasir, Ulang, Logochuk, Maban and Maiwut counties also caused localized flooding which negatively affected the crop performance. During the last quarter of the rainfall season, above normal rainfall was also reported across many parts of South Sudan thus resulting into additional flooding in the already affected areas in Warrap, Unity, Jonglei and Upper Nile States.

Figure 2: Seasonal Calendar in a typical year



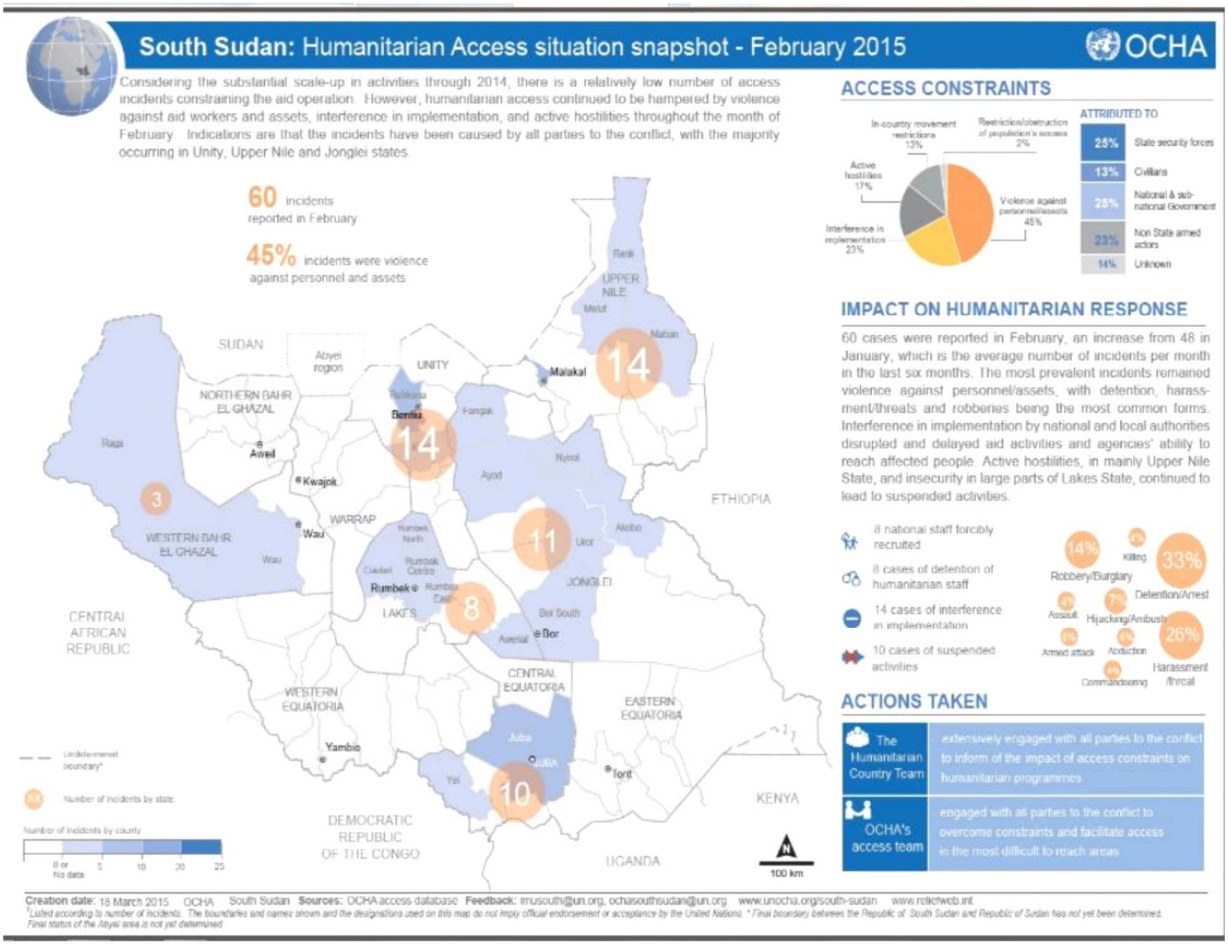
Accordingly, below average harvest was attained in Greater Upper Nile (Jonglei, Unity and Upper Nile states) as a result of the significant reduction on the areas cultivated due to the conflict and poor weather conditions resulting from erratic rainfall between May and July and floods later in the season. In general, only 65-75% of farming households cultivated in 2014, and the area put to cultivation ranged between 50-75% of normal. A 30% reduction in area cultivated was confirmed by satellite imagery for Thaker village in Mayendit County in July 2014 (http://www.fews.net/east-africa/south-sudan/special-report/august-29-2014).

Humanitarian Analysis

In the immediate aftermath of the attainment of independency on 09 July 2011, South Sudan formulated and launched the five year South Sudan Development Plan (SSDP) which, alongside other protocols, aimed at guiding the national socio-economic development process. When the conflict broke out in December 2013 between the government and the opposition, it severely affected the development gains achieved and created serious humanitarian needs. The context in South Sudan evolved rapidly, and efforts have been made by both government and development partners to tailor their interventions to match the ever increasing humanitarian needs in the country.

The following snapshot (Figure 7) illustrates the humanitarian access situation and shows the recent constraints in reaching the conflict affected population.

Figure 3: Humanitarian Access situation



The conflict has led to internal displacement of over 1.4 million South Sudanese. People from the Greater Upper Nile region (Jonglei, Unity and Upper Nile States) have been the most severely affected. Protracted fighting has adversely affected livestock, crop production, and markets, especially in the conflict-affected states. This in turn has increased cereal prices by up to 300 per cent and reduced cereal stocks. In the

worst affected counties in the Greater Upper Nile, as much as 80 per cent of the population was unable to cultivate staple crops in the last agricultural season and staple foods remain limited in many local markets. Overall, staple food stocks are projected to deplete within the first quarter (January to March) of 2015.

According to FSNMS Round 14, the food security situation in South Sudan continues to be worrisome throughout 2014 and the early quarter of 2015, particularly in Greater Upper Nile. While there is a temporary improvement of food security situation as a result of the latest harvest, households stocks are unlikely to last through February 2015 in Greater Upper Nile. In addition, there are populations that are more vulnerable to food insecurity even with the temporary improvement of the situation. These populations include the IDPs, returnees and the displaced populations who did not plant. These populations will continue to depend on asset stripping coping strategies and rely heavily on kinship support in addition to humanitarian assistance.

The continuing political conflicts are still weighing heavily against market functionality and will continue to hamper household's food access. The depreciation of the local currency and the rapidly widening gap between official and unofficial foreign exchange rates currently witnessed in the markets will further erode the purchasing power of households, especially the majority that depend on imported foods. The urban poor, the displaced and the large populations in Greater Upper Nile who lost their livelihoods are likely to be hit harder by the foreign exchange crunch. Food insecurity is also high in Lakes, Northern Bahr el Ghazal, Warrap and Western Bahr el Ghazal states. It is therefore critical that food production in the states not directly affected by conflict is not disrupted in 2015 to mitigate a worsening in the country's aggregate food deficit and increased future vulnerability.

Conflict Incidents

During the first six months of the crisis, violence and deliberate attacks on civilians resulted into high death toll, destroyed settlements and livelihoods, and constrained existing coping mechanisms. Figure 3 (below) gives a graphic representation of conflict incidents reported during the period under review. Lakes State reported the highest conflict incidents of 121,000, primarily cattle rustling and raiding conflicts. The occurrence of such conflicts intensified in 2014, also exacerbated by the break down in security in the neighboring states of Unity and Jonglei.

Figure 4: Conflict incidents by months (all in thousands)

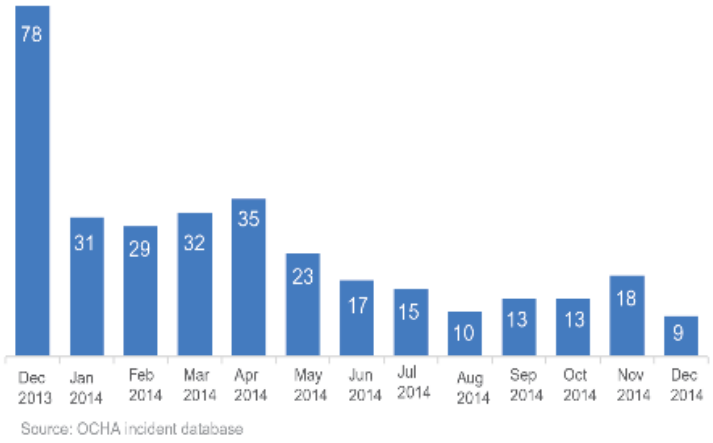
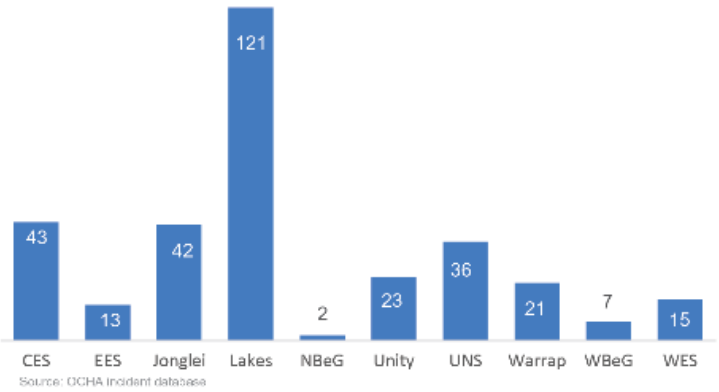


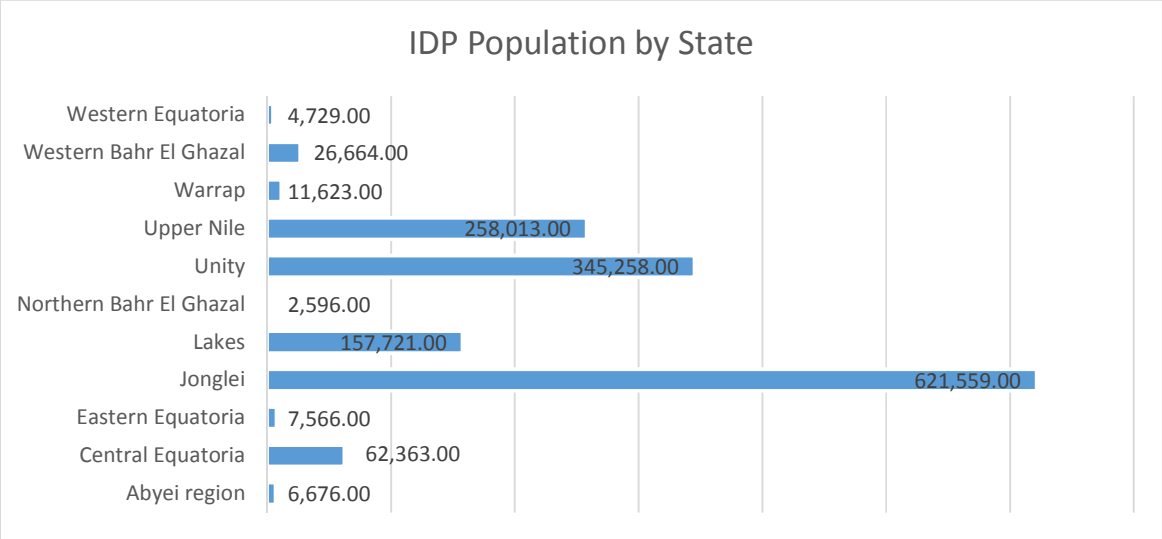
Figure 4 (above) shows that at the beginning of the Crisis on 15 December 2013, 78,000 incidents were reported. These incidents include violence, armed skirmishes, cattle raiding etc. Figure 5 (below) shows conflict related population displacement. The highest number of IDPs was observed in the GUN States, and notably in Jonglei.

Figure 5: Conflict incidents by State, 2014-15 (all figures in thousands)



The following chart (Figure 6) shows the situation of IDP population per state.

Figure 6: IDP Population by State, 2014



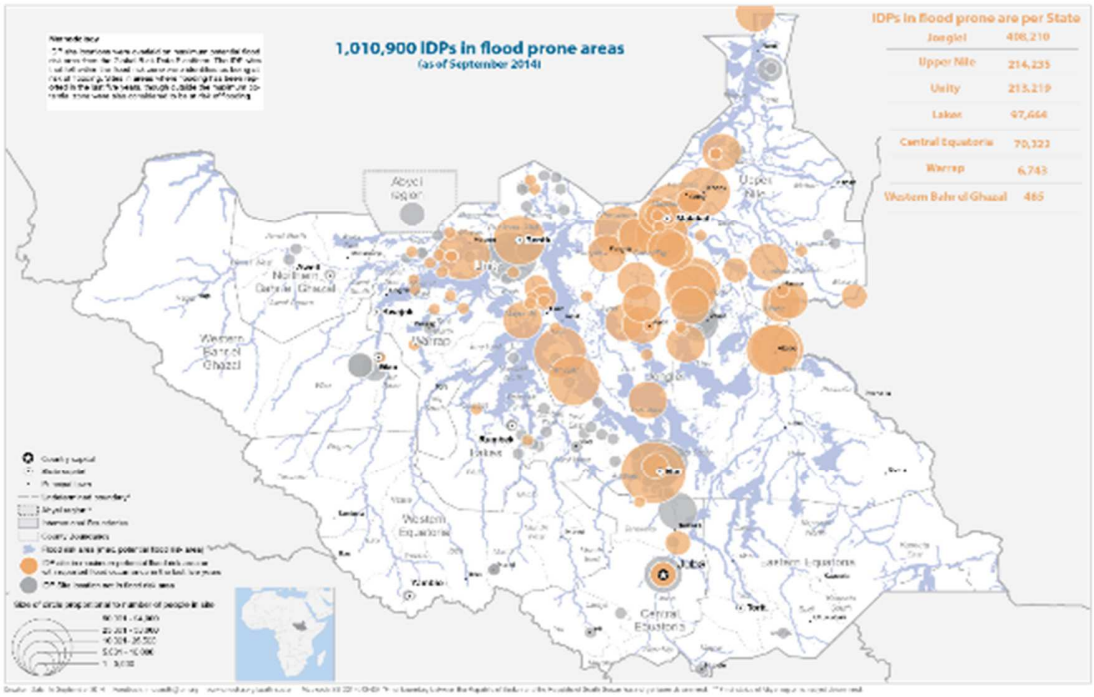
Natural Hazards, Climate Change and Variability

South Sudan is exposed to a number of climate-related hazards, including floods, droughts, land degradation, livestock diseases, and crop pests among others. Extreme climate events have detrimental effects on livelihoods; floods represent the main weather related causal factor of destruction of livelihood assets and of agricultural land in South Sudan.

South Sudanese population are frequently exposed to high risk of food insecurity due to a combination of stresses and shocks, including multiple and frequent climatic hazards, which have a severe impact due to low household capacity to withstand the emergency faced. For example, the Eastern Semi-Arid Pastoral livelihood zone is a semi-arid livestock rearing area with limited crop production, where population's vulnerability to food insecurity exposed prone to prolonged drought, livestock losses from diseases and cattle raiding, as well as resource and political conflict. These shocks and stresses affect the poorest and least resilient households.

Natural hazards, especially floods, are the main factor that has compounded conflict related internal displacement during the period under review. The highest number of population displacement due to floods has been recorded in Jonglei State with over 400.000 people displaced. Figure 6 (below) shows the IDP populations and the major flood areas, highlighting how IDPs are more freqeuntly exposed to the impact of multiple shocks.

Figure 7: IDP population by flood prone areas

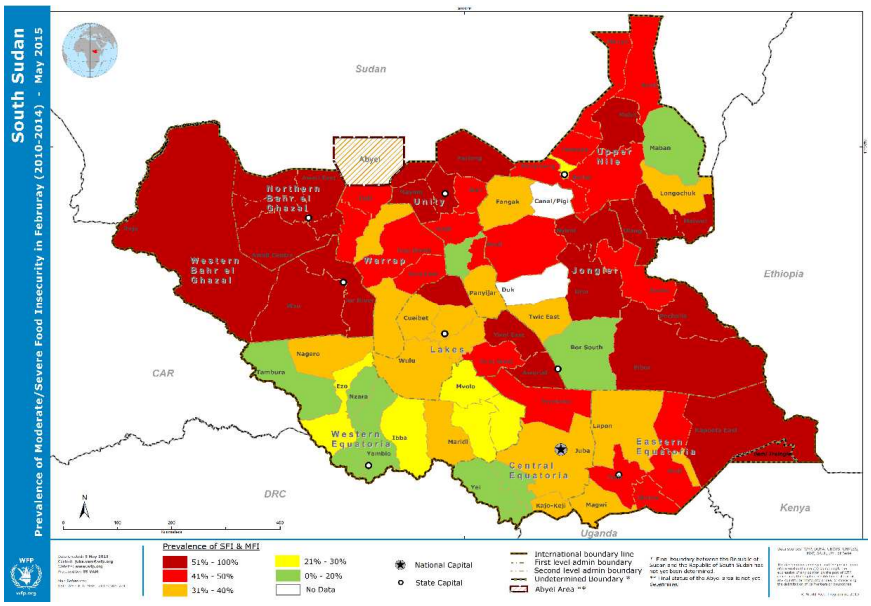


In addition to internal displacements due to conflict and natural hazards, the Republic of South Sudan has continued to be confronted by refugee challenges. By mid-2014, South Sudan was hosting over 250,000 refugees from the Central African Republic (CAR), the Democratic Republic of the Congo (DRC), Ethiopia and Sudan. These include over 220,000 Sudanese refugees from the Blue Nile and South Kordofan regions.

Food security situation and past trends

The results from the FSMS analysis on data collected in October 2014 show a significant reduction in the percentage of severely food insecure households in October compared to February (Figure 8) and June (Figure 9) five years trends. A slight difference in food security levels was also observed between February and June.

Figure 8: Prevalence of moderate/severe food insecurity (February)



The improvement in food security levels observed in October is due to the availability of livestock products, fish and the green harvest, which normally starts in late August.

Figure 9: Prevalence of moderate/severe food insecurity (June)

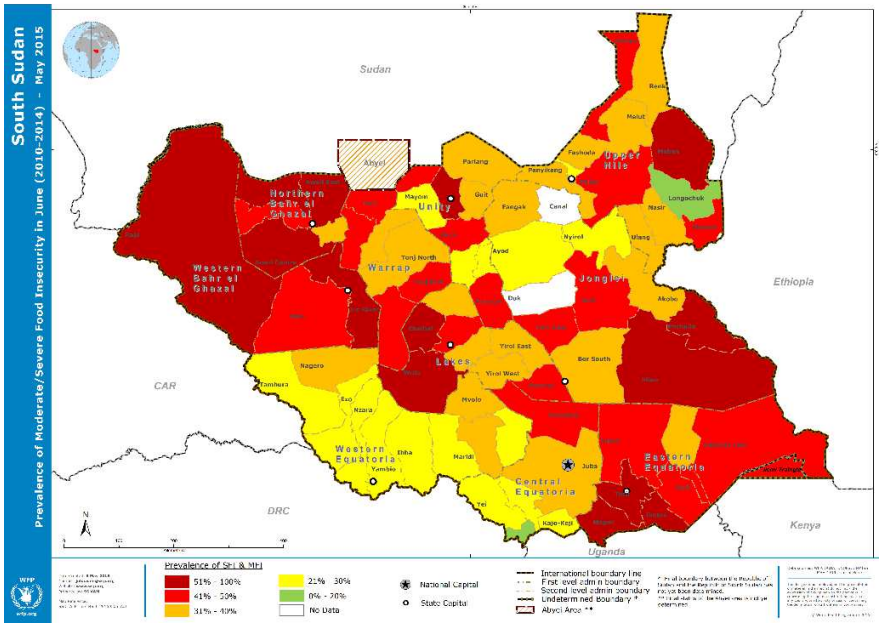
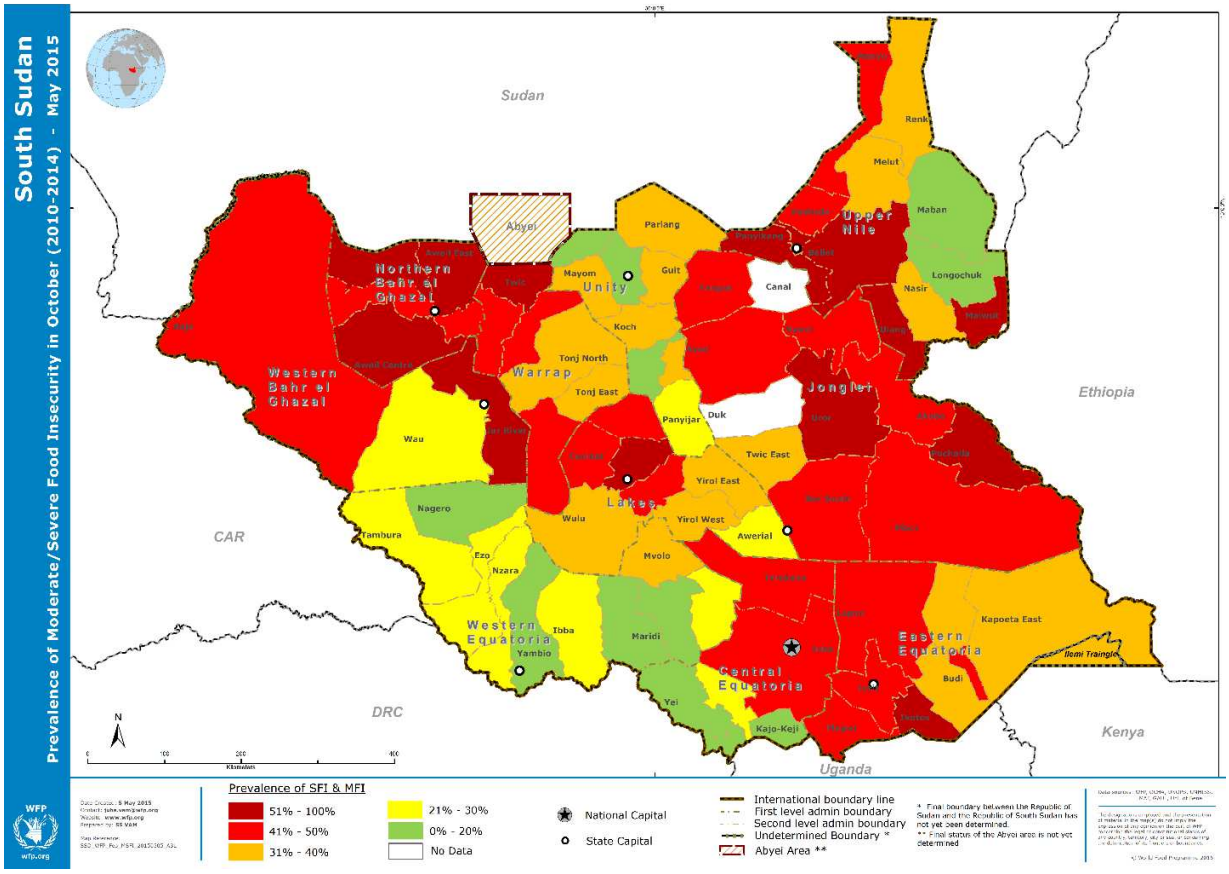


Figure 10: Prevalence of moderate/severe food insecurity (October)

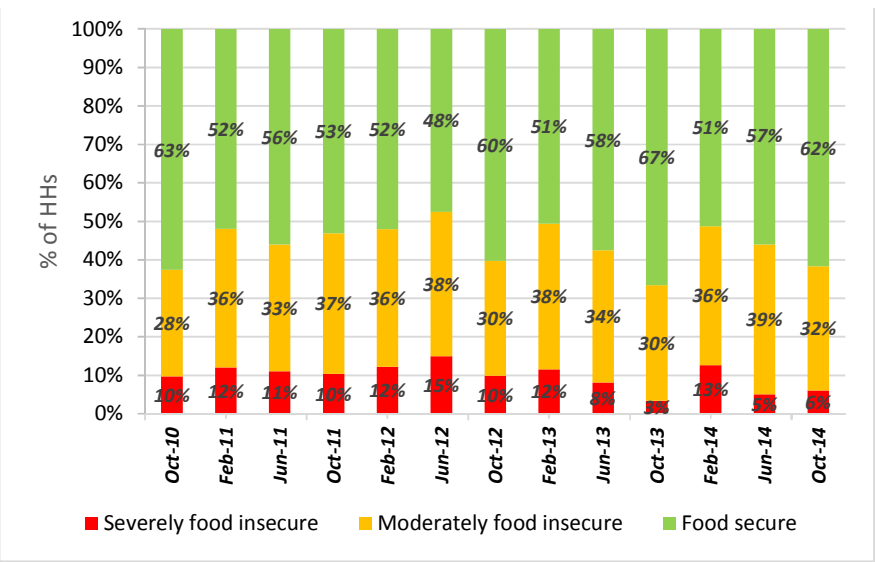


In addition, a concerted and sustained humanitarian effort in conflict affected areas and a good harvest in other regions, limited what might have been an extremely serious food security situation. This is particularly evident from the analysis of the food insecurity situation trend along the year. Analysis of the food insecure areas, indicates that the average food insecurity situation is reaching above 50%, even during the harvest season (October) in Northern Bhar El Ghazal, Jur River in Western Bhar El Ghazal, Uror and Pochalla in Jonglei and Maiwut in Upper Nile.

Food security across the country continued to show improvement in line with seasonal trends. This is expected to continue through June 2015 in areas not affected by conflict. On the other hand, food insecurity prior to the conflict was on a decreasing trend and reached historical minimum in October. However, the variations are greater in the different states.

Historical and countrywide, the percentage of households with moderate/severe food insecurity has ranged between 37% and 53% with the peak observed in June 2012 following the closure of oil production and border tension between Sudan and the country.

Figure 11: Food Security Trends (National Level)



The level of moderate and severe food insecurity observed in October 2013 was the lowest since 2010. After the onset of the crisis, the food security increased again countrywide with more prominence to Greater Upper Nile States. Due to the slight increase of stability observed during the FSNMS data collection period in October, food insecurity was partially decreasing also in line with seasonal trends.

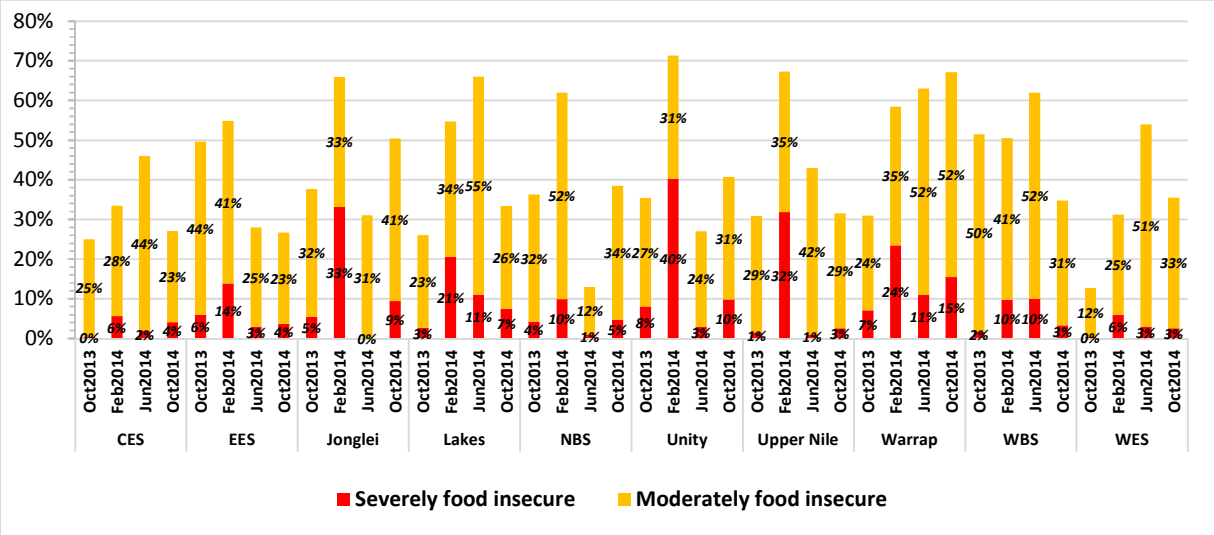
State-level changes in food security situation

According to the FSMS data, all states except Western Equatoria observed food insecurity levels above 50 % in one or more rounds. As per the FSMS conducted between October 2013 to October 2014, Warrap, Western Bahr El Ghazal, Northern Bahr El Ghazal, Jonglei, Unity and Upper Nile reported the highest rates of food insecurity with average of above 20 % (Fig 5). Central and Western Equatoria states had the lowest rates of food insecurity, with an average food insecurity percentage of 16% and 17% respectively.

Food insecurity is more pronounced in conflict affected states. Analysis just after the crisis, in February 2014, indicated that Unity was the most affected state, with 71 % of total affected population identified as food insecure, followed by Upper Nile (67 %) and Jonglei (66 %). The humanitarian assistance played an important role on preventing further deterioration of the food security situation in these states.

Compared to October 2013, Food Security situation improved in all states with the exception of Warrap, Jonglei, Unity Lakes and WES. The reduction in prevalence of food insecurity was most pronounced in Eastern Equatoria, based on the post-harvest food security analysis of 2013 and 2014 (October FSMS).

Figure 12: State level changes in the food security situation between October 2013 and October 2014



Overall changes in selected food security indicators

The standard classification of food security revolves around the use of the following relevant outcome indicators: food consumption, own food production, expenditures and coping strategies. Table 1 below highlights the changes in food security through each of these indicators over the reference period (2010-2014). In particular, the prevalence of households having an acceptable food consumption improved over the years 2010 to 2013, but decline significantly in 2014 due to the direct and indirect impact of the ongoing crisis.

The prevalence of households relying mainly on own food production for internal food requirements remained relatively steady over the five year reference period (35% to 47% of households). However, the lowest proportion was observed in 2014, following the displacement of a significant number of households due to the conflict. Even more than in the previous years, markets are the major supplier of staple cereals for the population in South Sudan, except around harvest time (October) in the most productive areas of the country. Food prices therefore have a pivotal influence on household food security status. If prices decrease following higher internal availability from favourable harvest, the number of food insecure households also reduce.

Household expenditure on cereals has declined from 29% in 2011 to 18% in 2014. Likewise, households limited the adoption of food-related coping strategies in the same period, with the coping strategies index decreasing from 15 to 7. However, in the Greater Upper Nile where the highest levels of food insecurity are observed by the FSNMS, households adopted with higher frequency coping mechanisms than in the rest of the country.

Table 1: Summary of food security changes between October 2010 and October 2014

Indicator		2010	2011	2012	2013	2014
Food consumption	Poor	19%	14%	16%	6%	14%
	Acceptable	58%	61%	59%	75%	55%

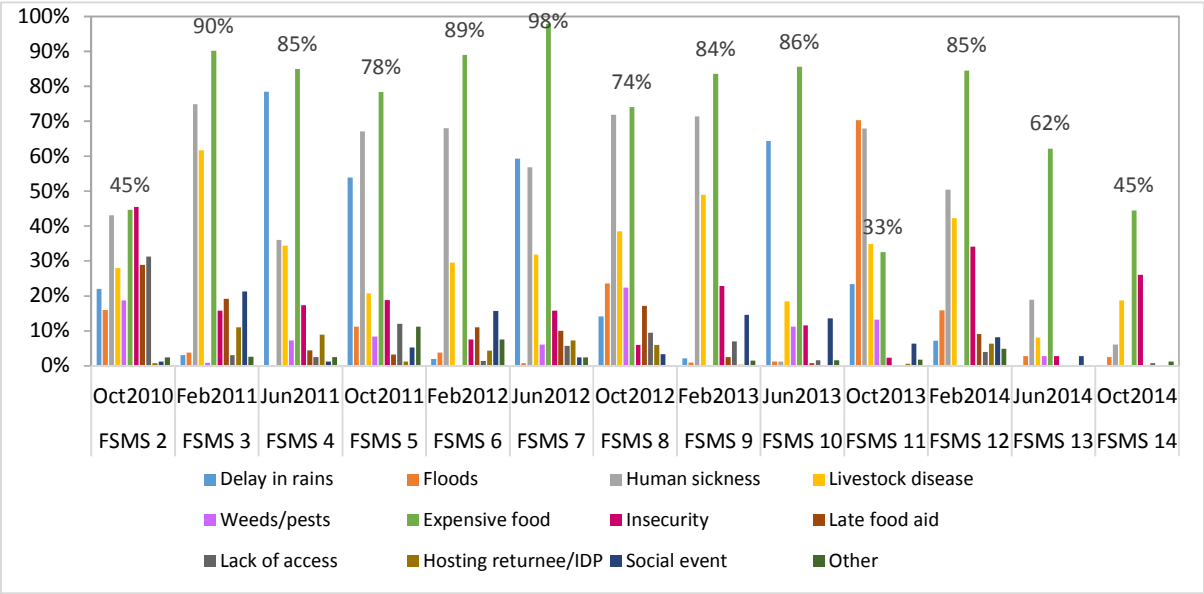
Own food Production		47%	39%	38%	41%	35%
Expenditures	HH Expenditure on (food)	48%	55%	48%	52%	44%
	HH Expenditure on (cereals)	24%	29%	24%	23%	18%
Mean Coping Strategy Index		12	15	8	7	7

Household Shocks and effect on food security from 2010-2014

This section aims at analysing to what extent shocks affected vulnerable households, with a specific focus on their assets, livelihoods and the environment on which they depend on. A shock is any kind of event that affects the food security and nutrition status of a household.

Frequent exposure to multiple shocks associated with structural factors has exacerbated the food insecurity situation of the most vulnerable households in South Sudan. Figure 12 below indicates that the occurrence of shocks in South Sudan is decreasing from October 2010 to October 2014. High food prices were the most frequent shock identified over most of the 14 FSMS rounds conducted since 2010, followed by human sickness, erratic rainfall and livestock diseases. Seasonally, the occurrence of high food prices tend to increase from February to June (lean season) whilst a decrease is observed in October (harvest season). From 2011 till June 2013, high food prices were a detrimental factor to most households' food security status, with peaks in June 2012 (98%) and in February 2012 and 2013 (90% and 89% respectively).

Figure 13: Incidents of Shocks in South Sudan (Oct '10 - Oct '14)



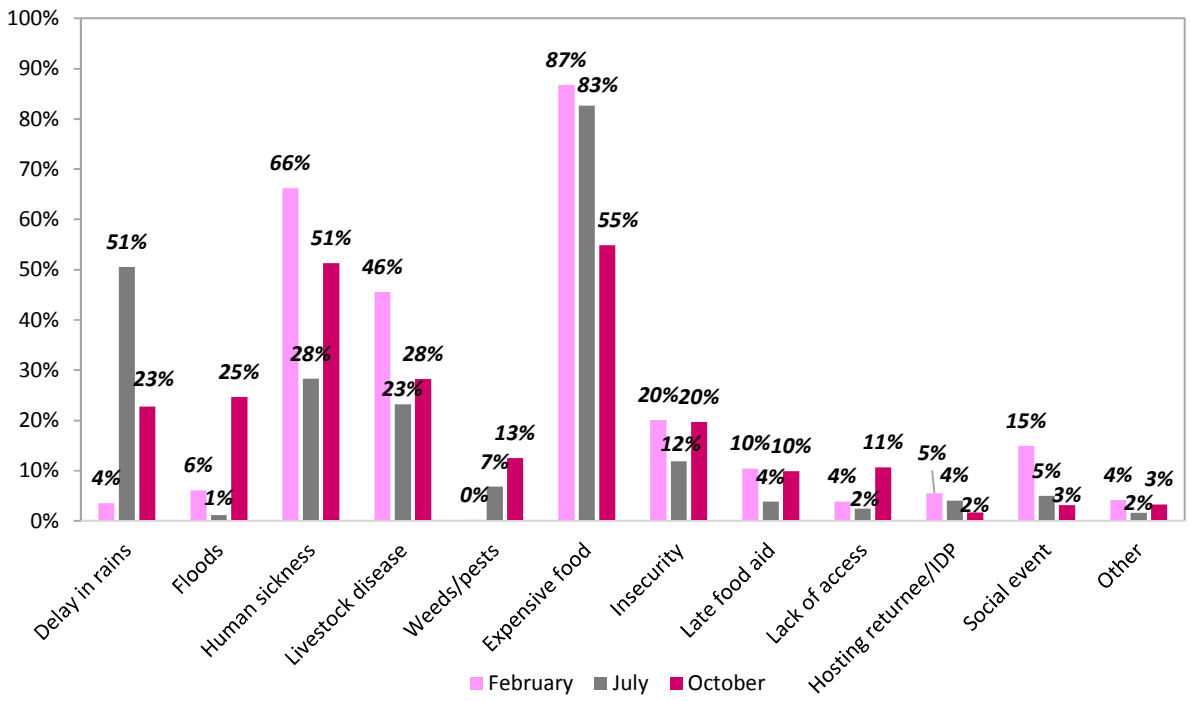
Key shocks reported by season

The trend analysis also shows that most households indicate having suffered more from shocks during the period around the February assessments. According to the data, the most relevant shocks during this period are is human sickness (66%), livestock disease (46%), expensive food (87%) and social events (15%),

likely related to the dry season. The FSNMS assessments conducted in July indicate that the most recorded shock are high food prices (83%) and the delay in rains (51%). In the same period there is high occurrences of human sickness (51%); floods (25%); and weeds and pests (13%). In the October FSNMS, expensive food (55%) and human sickness (51%) are the most frequently reported shocks (see Figure 13 below).

Surprisingly, insecurity as a shock has low incidence rate across the country. However, it is localized in the Greater Upper Nile region, where conflict led to significant displacement of local population and to limited food.

Figure 14: Average Incidents of Household Shocks



Coping strategies employed

Coping strategies are a series of behaviours adopted by households to withstand a shortfall in food for consumption. These behaviours are computed by a simple numeric score (Coping Strategy Index) reflecting the frequency and severity of these coping behaviours.

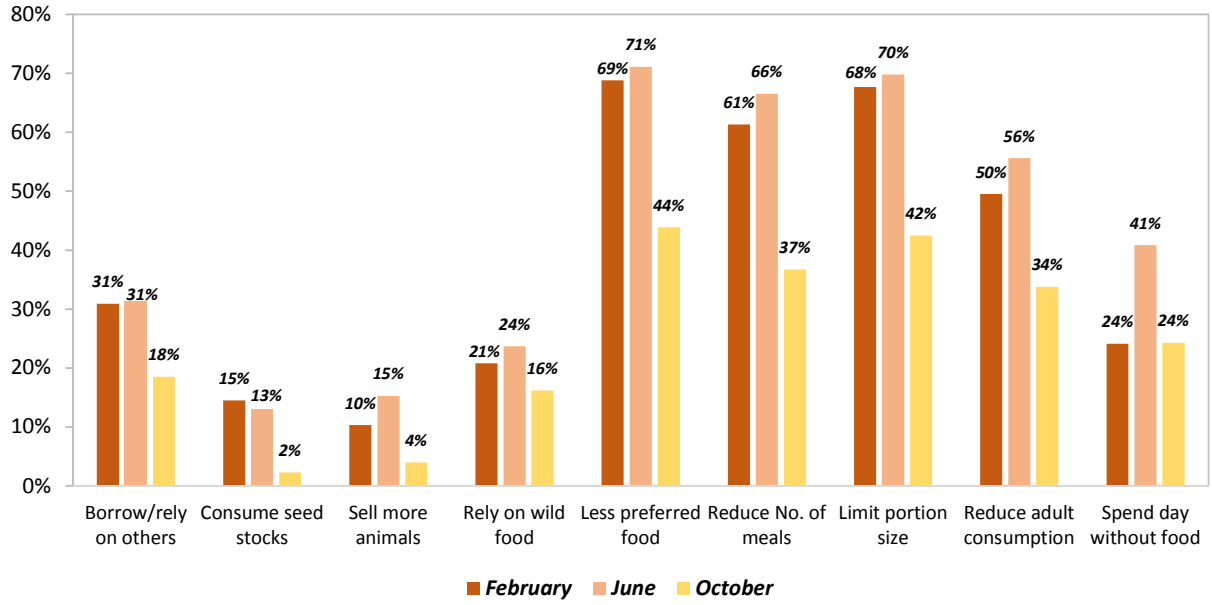
Variations on overall coping strategies are reflected into seasonal and inter-annual patterns. Over the years, most households adopt coping mechanisms during the period of February to June while a much lower number of households uses such coping mechanisms in October.

As shown in Figure 14, the change of dietary intake by consuming cheaper and less preferred foods is the most popular mechanism in South Sudan with significant seasonal differences on the proportion of households that adopt them (in February 69%, June 71% and October 44% households).

Secondly, steps to ration food to manage the shortfall (e.g. cutting meals, portion size and/or prioritizing access for some members of the household over others) are adopted quite consistently all year around. Rationing of food is mainly practiced by households during the cropping season around June (70%), followed by February (68%) and October (42%). On average, the least applied coping strategies are consumption of seed stocks (10%) as it has a negative effect on the next farming seasons and households resort to it only when all other mechanisms have been adopted. The sale of livestock is used by 10% of

Figure 15: Coping Strategy by Season (Feb, Jun, Oct) from 2010-2014

households, whilst 20% on average rely on consumption of wild foods and 27% in borrowing foods. Lastly, around 30% of the households indicated that in order to ration their food through they spent a whole day without food.



Programmatic implications of the profiles of food insecure households

Poverty and food insecurity are rampant among South Sudanese households, especially in conflict affected areas. Regardless of the food security status, households depend on own food production, markets and food aid as the main sources of food. Building on the analysis proposed, the following recommendations are made for programming purposes:

- **Provide unconditional food assistance** to the most affected households in order to enable them meet their minimum daily dietary requirements.
- **Support creation and restoration** of communities' assets
- **Improve road infrastructure and market access**

Additionally, to eradicate food insecurity in South Sudan, there is the need to commit to a long term strategy that tackles the following elements:

- Improve primary and secondary education;
- Bridging maternal and child health with nutrition;
- Define strategic plans to combat the main relevant shocks such as human sickness, etc;

- Develop the skills of young people;
- Re-invigorate adult literacy classes, especially targeting women in the reproductive ages;
- Reform Land Use policy for Refugees, Hosts and IDPs.

Markets

General situation

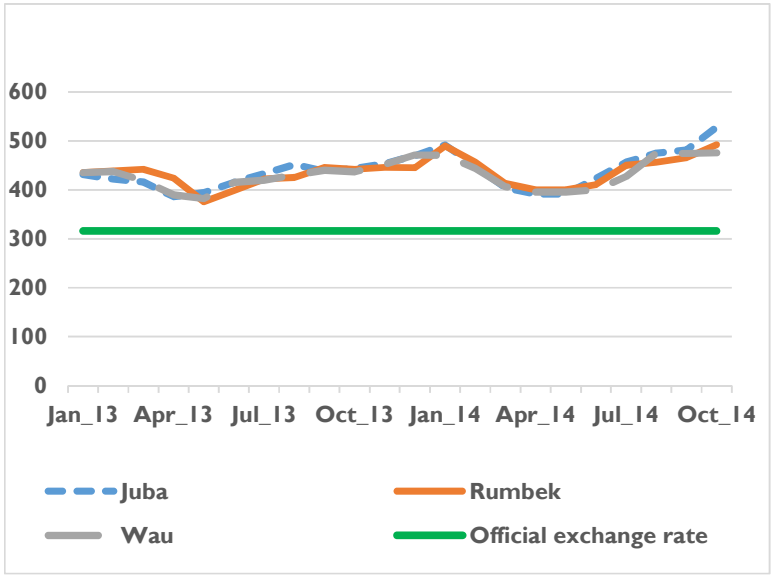
Markets are generally poorly functioning in many parts of the country, with the significant exception of Juba, which benefits from proximity to Uganda and the only tarmac road in the country. The ongoing conflict has negatively affected food trade, in particular in Greater Upper Nile states where fighting and violence led to the destruction of markets, market infrastructures and commodity stocks, hence discouraging foreign traders.

South Sudan largely imports goods and services including food commodities from neighbouring countries. Most of the formal food imports come from or through Uganda. Local trade, mostly informal and targeted towards bordering areas, occurs within Sudan from surplus areas to destination markets, and to lesser degree from Ethiopia and Kenya. This however is not comparable in terms of volumes inflow to the quantities of commodities imported from Uganda.

Food availability in South Sudan was a challenge during the 2013/14 season. The underlying factors are ascribed to the country's poorly developed potential, mainly due to limited investments in the agricultural sector and poor infrastructure. Widespread insecurity further compounded the impact of these structural constraints. At the time of the country wide market assessment[3] conducted by WFP in October 2014, internal movement of food commodities was severely disrupted by poor road conditions and a widespread lack of means of transport. These factors have affected food availability over the last years and led to increasing food prices across the country, most especially in the conflict affected states.

Indiscriminate violence against the population not only affected livelihoods, but led to massive losses of local production, undermining expected food supplies and internal food availability. Consequently, many of the locations in the Greater Upper Nile now depend on trading flows coming from Juba via aircraft cargoes and from neighbouring countries (mostly Sudan and Ethiopia). Yet, food supply chains get weaker and weaker as distance of markets from cross-border points increases.

Figure 16: Exchange Rate



Macro-economic constraints further contributed to limit the economic food access of vulnerable population. Since June 2014, crude oil prices continued their slide towards multi-year lows on the international markets and reached US $ 50.7 a barrel in December 2014. The continual oil prices drop compounded by conflict-driven reduced oil production in the country, has severely constrained the revenue generation capacity of the country to meet the demand for foreign exchange. As a result of such constraints, the unofficial exchange rate of the SSP with hard currency decreased, amplifying the spread with the official rate.

[3] South Sudan Rapid Market Assessment, 2014

Food commodity importers mostly get the benefit of exchange rate from unofficial foreign currency market. . During the process, the value of their capital is eroded and they are thus forced to raise the final price of the imported products. The consumers therefore are those bearing the costs of the depreciation of local currency. The spread between the official and unofficial exchange rate of US dollars against the local currency is widely diverging over time (Figure 15). For example, the unofficial exchange rate at Juba was fluctuating between SSP 5.80-6.50 per a US dollars in January 2015, higher than 85% of the official rate.

Consumer Price Indices

Like other developing countries, food and non-alcoholic beverages in the construction of consumer price indices in South Sudan account for a significant proportion of the weights. Specifically, food and non-alcoholic beverages account for about 71.39% of the total weight, with the remaining 28.61% formed by non-food items. Among the food commodities, bread and cereals (31.51%) have the highest weight, followed by vegetables (9.53%) and meat (7.49%). Changes in prices of these specific commodities will therefore have higher impact on the consumer price index.

According to the National Bureau of Statistics (NBS), the year-on-year overall consumer price index (CPI)[4] increased by 9.9% in December 2014 compared to December 2013. This steep increase was reported to be driven by higher prices of food and non- alcoholic beverages. The year-on-year food and non-alcoholic beverages index increased by 6.9%. The increase in the overall CPI indicates that the cost of living has increased by 9.9% as compared to December 2013. Such increases in CPI have an implication on the purchasing power of poor and very poor households. The disaggregated components of the CPI show that non-food components have increased in 2014 as follows: housing, water, electricity, gas (49.9%); health (36.7%); clothing and footwear (16.9%); alcoholic beverages and tobacco (15.5%).

The CPI increased in 2014 more significantly in Wau (30.6%) followed by Juba (10.2%). The food and non-alcoholic beverage index increased significantly in Wau (50.8%) whilst the figure in Juba stood lower (4%). Conversely, the year-to-year CPI for housing, water, electricity and gas increased by 57.4% in Juba whilst the increase was relatively modest in Wau (35.7%).

Price volatility

The prices of staple cereals in South Sudan are unstable and fluctuate during different seasons of the year. The Coefficient of variation (CV)[5] is a statistical measure of the stability of prices. It indicates the dispersion of prices compared to their long-term average. A high value of CV indicates high price volatility, which suggest large changes in supply and demand, and inter-and intra-annual price instability. Good market performance results in a lower CV. However, high coefficients of variation do not automatically coincide with high prices, but rather with a high degree of price variability.

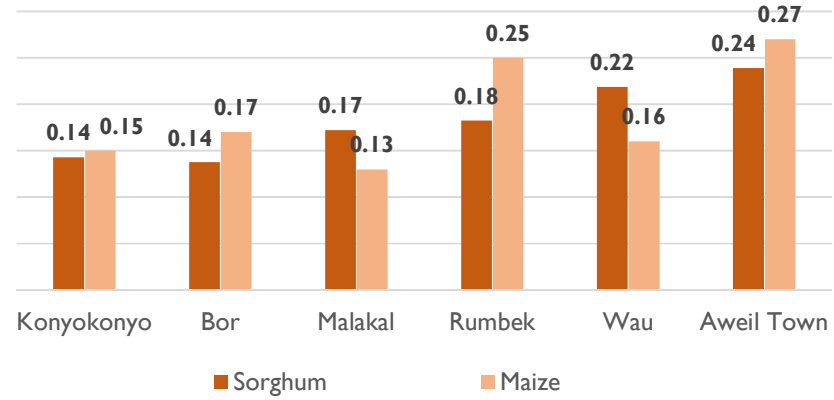
The average value of CV for sorghum and maize prices (2009-2014) in South Sudan ranges from 0.14 in Konyokonyo (Juba) to 0.27 in Aweil, which translates into a price fluctuate comprised between 14% and 27% from their average value (Figure 2). The low stability of prices for main commodities increases the uncertainty of price anticipations for households, farmers and traders. Consequently, households have to

[4] CPI is a measure of cost of living or inflation of a specific basket of goods as compared to the base year. It measures the purchasing power of households of specific basket of goods relative to the base year.

[5] Coefficients of variation is calculated as the ratio of the standard deviation to the mean.

face uncertainty in their budget decision (i.e. which proportion of their budget to set aside for food). Traders are also unable to anticipate the results or profits of their activities. High price instability can also harm producers by inducing uncertainty about the final prices of their outputs. Price instability has been found to affect food security even more negatively than high prices level. Price instability can be the result of a wide range of community level, national and regional factors, including poor infrastructure and market integration, risks related to insecurity, seasonality, fuel prices, prices of main commodities and oil in the international market.

Figure 17: Coefficients of variation of prices of maize and sorghum in 2014 by state



Normally, price trends of agricultural products follow seasonal patterns whereby during the harvest season prices go down and then rise in the lean season, as clearly observed in some of the markets in South Sudan. In addition to the seasonality factors, the conflict in South Sudan has also put another hindrance to the availability and hence abnormal prices of staple cereals in 2013/14. In 2014, the trends of nominal retail prices of sorghum and maize showed different pictures between conflict affected states and the non-conflict ones. In the three conflict affected state markets (Bor, Bentiu and Malakal), the retail prices of sorghum were higher than the long term average (2009-2013) and the similar months of 2013 (Figure 3).

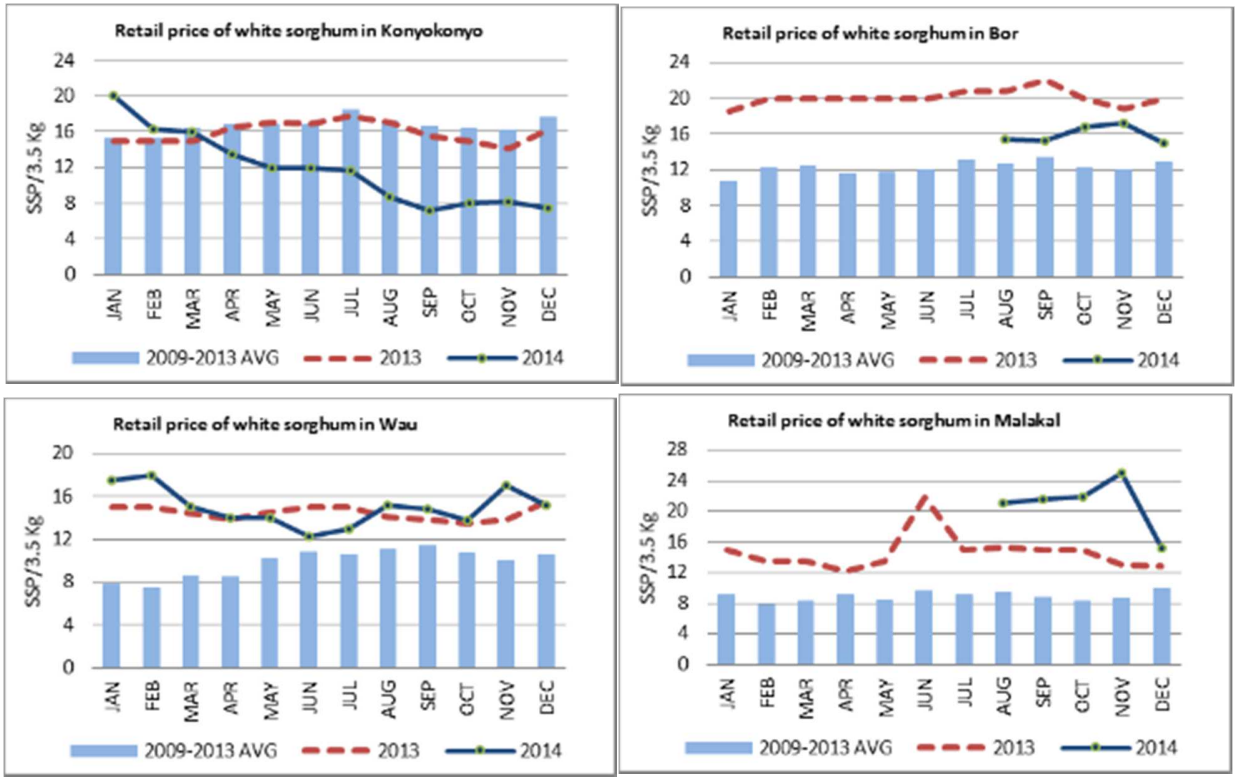
Price trends and seasonality

In 2014, on average the retail price of sorghum stood above a five-year average in Bor (27%), Bentiu (99%) and Malakal (136%). Among the conflict affected markets, the relative lower percentage of price increases in Bor could be due to its proximity to the largest markets in the country in Juba. In the non-conflict state markets of Aweil and Wau, prices stood above the five-year average, whereas mixed trends were observed in Warrap.

The price of sorghum in Greater Equatoria states remained below the long term average and 2013 levels. For instance, in the beginning of 2014, the price of sorghum in Juba was above a five-year average, and above the levels observed during the first quarter of 2013.

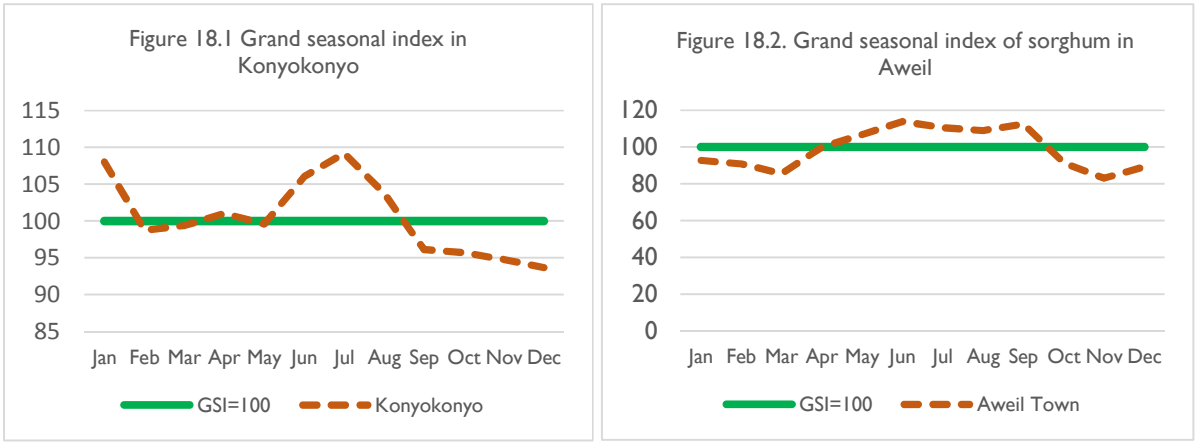
Understanding how price seasonally fluctuates is helpful for monitoring the food security of households and for programming market based response during the different seasons of a year. Furthermore, seasonal index analysis helps to forecast prices and to make contingency plans ahead of time. The '12 months centred moving average' is used to calculate the seasonal index of the markets for the period of 2009-2014. Additionally, the Grand Seasonal Index (GSI) of main staple cereal and sorghum was calculated to understand the seasonality of prices. It shows an average of seasonal indices for the analysis period (2009-2014) and depicts the seasonality of prices within one agricultural season. Generally, knowing the seasonal pattern of price fluctuations provides useful information, which can be used to strengthen markets and food-security monitoring activities.

Figure 18: Trends of cereal prices



As depicted in Figure 17, sorghum prices seasonably increase between May and August/September. These months are associated with the planting season where producers finish their grain stocks and rely the most on market to access staples. Since South Sudan is highly reliant on imports of staples from Uganda and Sudan, it is difficult to identify a straightforward seasonal pattern across all markets, even more so considering that the seasonal calendar for these countries differs from the one in South Sudan. The GSI of sorghum price in selected markets (Konyokonyo and Aweil) shows that the prices are above the average value of the season (GSI =100) in the months from May to August/September.

Figure 19: Grand seasonal index in Konyokonyo and Aweil



Market integration

The analysis of market integration helps to understand the flow of commodities between markets and co-movement of prices. Typically, well integrated markets understand a correlation of prices of same commodities between different markets, although at different levels determined by transaction costs; and commodities flow between markets. One of the indicators for market integration is the analysis of prices correlation coefficient between markets. As a rule of thumb, price correlation coefficient above 0.60 is used as indicator of spatial market integration.

Table 2: Market Correlation Coefficient (2009-2014) based on sorghum prices

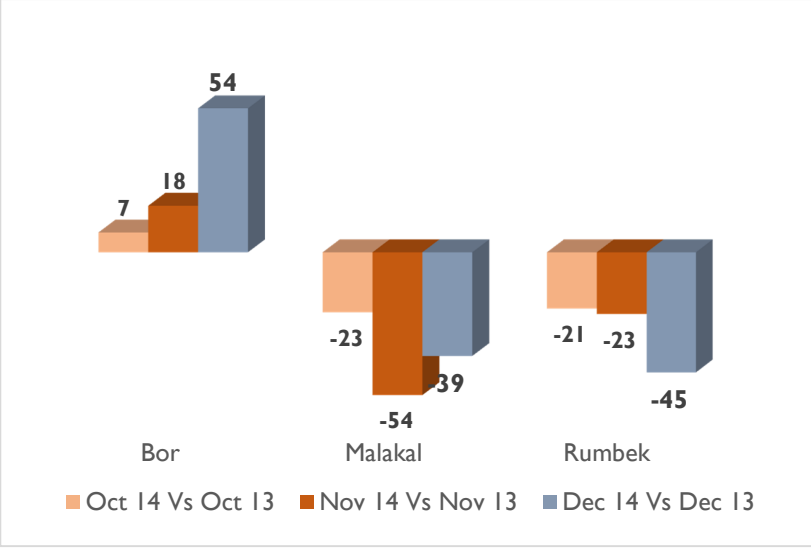
	Aweil	Konyokonyo	Malakal	Rumbek	Wau	Bor
Aweil	1	0.65	0.76	0.55	0.88	0.75
Konyokonyo	0.65	1	0.70	0.62	0.78	0.88
Malakal	0.76	0.70	1	0.69	0.80	0.74
Rumbek	0.55	0.62	0.69	1	0.63	0.84
Wau	0.88	0.78	0.80	0.63	1	0.84
Bor	0.75	0.88	0.74	0.75	0.84	1

Table 2 shows a high degree of sorghum price correlation coefficient between main states' markets. The figures show the co-movements of prices between the markets. Most markets in South Sudan are receive sorghum supplies from Juba (Konyokonyo), or source from the same external sources. This help explain the higher correlation coefficients above the threshold level. Given poor road infrastructure and high transport costs in the country, market connectivity beyond state capital markets are very questionable and is reportedly poorly integrated.

Terms of Trade

The terms of trade is a proxy indicator of the purchasing power of households in relation to their main income sources. Households in Jonglei, Malakal and Rumbek states are more dependent on livestock as compared to other states. Hence, monitoring the terms of trade (TOT) between the livestock and staple cereal shows how their purchasing power evolves against the most common staples purchased in the markets. Absence of continual

Figure 20: Percent change of ToT changes



historical livestock prices has limited the analysis of TOT to the last quarter of 2013 and 2014. According to this analysis, goat and sheep are the most traded livestock; goat to sorghum TOT was the highest in Bor (17-34 malwa) followed by Malakal (19-29 malwa) and finally at Rumbek (8-11 malwa) from October to December 2014. In the last quarter of 2014, the TOT has improved at Bor but deteriorated at Malakal and Rumbek compared to the same period in 2013. This could be attributed to access to market and proximity of Bor to the capital (Figure 6).

Markets outlook

The outlook of market performance in the country depends on the on-going peace negotiation and macro-economic climate characterized by foreign exchange scarcity and widening spread between the official and unofficial exchange rates. In the best case scenario, which forecasts an average to above average production and dry-season road conditions, the observed price stability in non-conflict affected locations is likely to remain unchanged.

In the conflict affected areas, the availability of commodities in the markets and the evolution of prices will depend on the political developments influencing the security conditions and the risk appetite of traders to venture inlands. The security situation remains unpredictable and largely dependent on the on-going peace negotiations between the two warring parties.

Price forecasts (low, medium and high price scenarios) using the Grand Seasonal Index and the most recent data show that the prices of sorghum in the markets of Konyokonyo, Bor, Malakal, Aweil, Rumbek and Bor are expected to remain stable (Jan – Apr 2015) with swings within 5% of the preceding month. However, from May 2015 onwards it is forecasted for the rate of increases to be higher (5-16%). This forecast does not look at external non-market factors that impact trade such as conflict, which disrupts the functioning of the market.

Figure 21: Forecasted Sorghum price at Konyokonyo

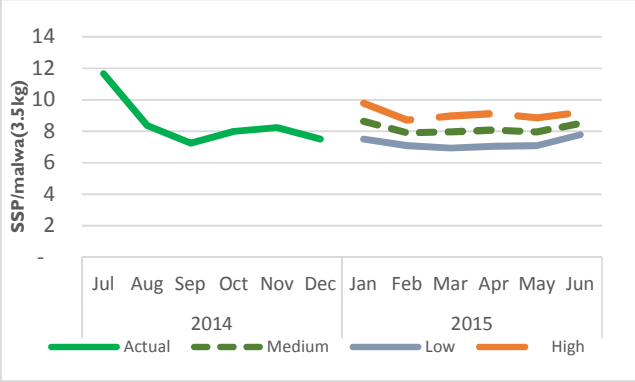
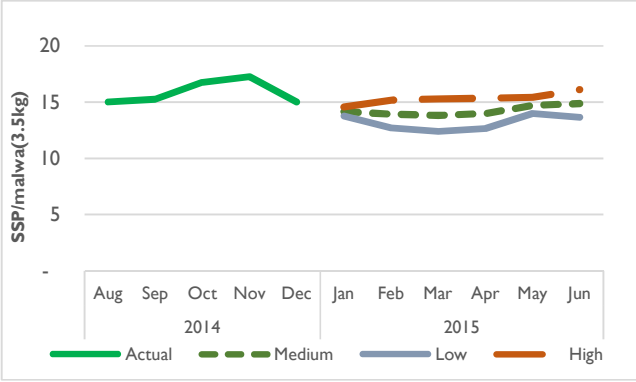


Figure 22: Forecasted Sorghum price at Bor



Programmatic implication

Market has significant roles in the implementation of market based response options and ensuring availability of staples at affordable prices. In this regard, in order to strengthen the markets, the following measures must be adequately considered and addressed:

- Advocate the possibilities of staple food commodity traders' access to hard currency from official sources;
- Strengthen joint market monitoring by the Government of South Sudan and humanitarian organisations;
- Support farmers' organisation in surplus production areas to aggregate and supply food deficit locations; and
- Improve physical access for feeder roads to allow better flow of goods from surplus to the markets with reduced transport cost.

Agriculture

Potential

The potential for agricultural growth remains huge, with only about half of the total 82 million hectares of agricultural land being suitable for agricultural production currently exploited. The remaining half is composed of marginal arable land, forests and wetlands. Thus, the country has potential to produce surpluses of cereal and legume crops, and other valuable cash crops. The potential for irrigated agriculture is also substantial with the presence of the river Nile and the world's most extensive wetlands, the *Sudd.* This wetland, which includes several swamps and a number of river tributaries, provides an expansive irrigation capacity in six states (Eastern Equatoria, Central Equatoria, Lakes, Jonglei, Unity and Upper Nile). However, the cultivation is still mainly rain-fed. Irrigation would increase arable land and extend growing seasons, but irrigation facilities and technologies are limited and therefore the potential of the water resource remains underutilized. Thus, despite having vast agricultural land, only 4.5 per cent is cultivated[6].

A large proportion of the economically active population of South Sudan is engaged either directly or indirectly in smallholder subsistence agriculture or fisheries. According to the South Sudan National Census (2008), about two-thirds (61.8 %) of South Sudanese are dependent on agricultural production for their livelihoods.

For sustainable food security, the country has to ensure that sufficient quantities of food are available through agricultural production and commercial imports in all states. For most rural areas, low and/or variable agricultural production is still a key limiting factor in food and nutrition security. This has been characterized by varying but generally low cereal production due to several factors including limited inputs; unfavourable weather conditions (i.e. erratic rainfall and dry spells and floods); poor physical infrastructure for connectivity to markets; low agricultural extension services; lack of skills and knowledge development; low priority given to agriculture production; and ethnic conflicts, which have in most cases disrupted the farming activities.

Production of South Sudan's main staple crops—sorghum, maize and cassava—is mainly a subsistence activity. The area cultivated is limited in size and crop production is predominantly done by traditional hand held tools (malodas and hoes). Rain fed mechanized cereal production is practiced on a large scale in the Upper Nile counties of Renk, Manyo, Melut, Baliet, Fashoda and Malakal. National average area for cereal production is estimated at 0.9 ha per household and sorghum constitutes 70% of the area planted.

Sorghum is the staple food crop for all the states in South Sudan except the greater Equatoria states. Maize is also estimated to be grown in 27% of the total area cultivated and popularly grown in the Greenbelt of the Equatoria states, south - central parts of Unity State along the Nile Sobat River and in eastern Jonglei State counties bordering Ethiopia. Millets (Bulrush and Finger) and rice complete the remaining 3 per cent of the cereal areas cultivated. Other food crops produced in the country also include sweet potato, yams, sesame, groundnut, okra, cowpeas, green-gram, pumpkin, *bambara* nut and a wide variety of vegetables. Coffee, tea, pineapples, sugarcanes, tobacco and bananas can be grown in the country with great potential. In most cases, subsistence farmers tend to sell their surplus produce immediately after the harvest in order to settle accumulated debts, school fees and purchase other basic food commodities. However, in South Sudan, this is hindered by poor road connectivity to markets and a lack of effective marketing systems.

[6] FAO Land Cover Database.

Trends in agriculture production

Since 2009, overall cereal production has increased in South Sudan. The FAO/WFP CFSAM estimates the total national production for 2014/15 at 1, 1.015 million MT against 1.264 million MT of local consumption. With a projected population of about 11.4 million people in mid-2014, which includes about 2 million returnees since 2008, the overall cereal deficit until the next harvest in late 2015 is estimated at nearly 249,000 MT. Average cereal yield (gross) is estimated at 1.0 MT/ha, 32 % higher than last year's estimate of 0.76 MT/ha. The improved yields are attributed to good weather conditions at the start of the growing season.

The distribution of production and deficits varied widely across the states. All the states in the Greater Equatoria region and Western Bahr el Ghazal had production surpluses, while the rest of the states have deficits. The Greater Upper Nile States had the largest crop production deficits (-308,976 MT) as expected, mainly because of the conflict. The worsening and significantly higher deficits in the conflict-affected states reflect the impact of the conflict on production. The conflict displaced a large proportion of the population, resulting in missed planting in March/April 2014. Because of food shortages, many households also consumed grains initially meant for planting, leading to still more missed planting opportunities (WFP Market Assessment Report, February 2015).

Agricultural constraints

Agricultural constraints ailing the sector contribute to the recurrent deficit in domestic food availability. For South Sudan to reach significant production to bridge the huge deficits and reduce dependency on food imports, the country has to pragmatically address the constraints impeding the sector and preventing commercial production, namely:

- Limited access to quality inputs (e.g. certified seeds and fertilizers);
- High levels of pests and diseases;
- Insecurity in some communities (caused by livestock raiding);
- Limited road and market infrastructure;
- Limited agro-processing capacity, particularly at the smallholder farm level;
- Poorly developed agricultural value chains;
- Competition from cheaper imported rice and cassava;
- High postharvest losses both at field and storage levels;
- High cost of production – e.g. use of hand held hoes/malodas versus Draught Animal Power (DAP) and tractors;
- Slow progress in the introduction and uptake of new agriculture innovations;
- Failure to implement policies and strategies; and
- Poor budget allocation to agriculture production and productivity.

Government Public Cereal Reserves and the Agricultural Master Plan

By early 2015, the government has finalized the formulation of a Comprehensive Agricultural Master Plan (CAMP) to address the constraints ailing the agricultural sector. The National Strategic Food Reserve (NSFR) which was in the process of establishment by Government, WFP/FAO and partners has been halted after the eruption of the conflict in mid-December 2013.

Programmatic implications

While the policy instruments for building a vibrant agricultural sector are being worked on through initiatives such as the CAMP and others, this ANLA reiterates previous recommendations which remain relevant to the sector. In order to improve performance in the agricultural sector, the involved stakeholders must address the structural problems of agriculture. This will require combination of improved agricultural technologies and inputs, skills and training, infrastructure and policy. Below a few key measures are listed:

- Expand the irrigation sector, in order cover larger areas and increase cropping season;
- Conduct an agricultural census to serve as a baseline;
- Evaluate the mechanization programme with the aim of increasing its benefits ;
- Strengthen research and development for seed improvement and other agricultural technologies that would mitigate the impact of drought and floods (e.g. drought resistant varieties and increased use of recessional agriculture in flood-prone areas) – accompanied by improved extension service to increase agricultural skills;
- Establish the national cereal seed reserve to boost preparedness of Government of South Sudan, which will provide incentives to increase household food production, incomes and enhance domestic food availability –
- Expedite the process of establishing the National Strategic Food/ Grain Reserve ;
- Strengthen cross-border trade monitoring to provide information on decision-making for market-based interventions;
- Establish and continue supporting rural micro-finance programmes for small-scale farmers who want to increase production of food surpluses for purchase programs either by Government or other initiatives such as the WFP's Purchase for Progress (P4P) – co-operatives and farmer associations would provide entry points for micro-finance and extension programs;
- Support areas where substantial production is happening and where people are ready to increase production as a point of departure; and
- Strengthen agriculture statistics in South Sudan by developing the human resources pool, and crops and livestock assessment systems.

Livestock

Livestock Potential

Livestock production represents a significant proportion of first sector activity, and is directly affected by land and public investment policies, particularly those that apply to migratory grazing and trading routes. South Sudan has the sixth largest livestock herd in Africa, with an estimated 11.8 million head of cattle, 13.9 million goats and 12.6 million sheep, which together with its low population density gives the country the highest per capita livestock holding on the continent (FAO 2012).

The livestock production monetary value is estimated about SSP7 billion (or USD 0.58 billion) with the potential value of annual milk production estimated atSSP1.6 billion. The marketing chain is composed of an estimated 980,000 livestock producers, 4,000 livestock traders, and about 2,000 cow butchery owners in 500 markets in all the states of South Sudan. It is further estimated that some 65 per cent of households in South Sudan own livestock. The livestock sector is also an important economic pillar contributing 15 per cent of the GDP (CFSAM 2015). Apart from its economic value, livestock also has an important cultural value not to be overlooked. Ownership of cattle is also a risk mitigation tool for pastoralists and farmers, with the latter continually facing uncertainty caused by crop failure.

Cattle population

Livestock remains important in South Sudan for both economic and social reasons. The most recent documented estimate of cattle numbers was done by FAO in 2009. The CFSAM mission of 2014 estimates the South Sudan's cattle population at 11.7 million. The CFSAM mission in 2014 also estimates the sheep and goats' population in the order of 24 million head. Cattle is mainly concentrated in Greater Bahr el Ghazal (accounting for about 48 per cent) followed by the Greater Upper Nile Region with about 31 per, while the Greater Equatoria accounts for 21 per cent of the cattle population.

Table 3: South Sudan revised cattle population by State (thousands)

State	2009	2010	2011	2012	2013	2014
Central Equatoria	878	879	879	880	881	885
Eastern Equatoria	888	889	889	890	891	895
Western Equatoria	675	675	676	676	676	679
Jonglei	1465	1466	1467	1468	1469	1475
Upper Nile	983	984	984	985	985	989
Unity	1180	1181	1181	1182	1183	1188
Lakes	1311	1312	1313	1313	1314	1320
Warrap	1528	1529	1530	1531	1532	1539
Western Bahr el Ghazal	1248	1249	1249	1250	1251	1257
Northern Bahr el Ghazal	1579	1580	1581	1582	1583	1590
Total	**11735**	**11744**	**11749**	**11757**	**11765**	**11817**

Source: Mission (CSFAM, 2013) from FAO Livestock population estimate (2009), except for 2014 where the more recent estimates have been proportionally allocated to the states

Current animal body conditions

Based on a Livestock Alert produced by FAO in December, 2014 was generally tough for livestock in many parts of South Sudan. As livestock owners in the conflict-affected areas fled the ongoing conflict, millions of animals were displaced, leading to fresh outbreaks of disease and rising tensions between pastoral

groups and farmers, as well as within different pastoralist communities. Worrying new animal disease patterns, intensifying violence over access to land for grazing and worsening livestock conditions were experienced during the year. The increased movement of livestock along unusual migratory routes, particularly agricultural areas, in order to flee or avoid violence, has created tensions with farming communities, often leading to violence. These dynamics are seriously undermining social stability, including in areas of the country less affected by the wider political conflict.

The 2014 CFSAM report noted the following migrations have been reported from conflict-affected states into different states:

- In **Eastern Equatoria State**, movement of livestock has been concentrated in Madi corridor of Magwi, where more than 250,000 heads of animals moved into the eastern part of the country in April 2014;
- In **Western Equatoria State**, also in April 2014, official sources reported early migrations of cattle in Tambura (with arrival of over 3,000 heads from Jonglei State), in Mvolo (with arrival of 25,000 heads from Lakes State), in northern Maridi (with arrival of 45,000 haeds from Jonglei State) and in Mundri West (with arrival of 2,900 heads from Jonglei State) for a total of 76,000 heads of cattle; and
- In Awerial county in **Lakes State**, during an investigation of a disease outbreak in October 2014, FAO and partners estimated local and migrating herds from other states to reach some 750,000 heads of cattle and more than 1 million heads of sheep and goats.

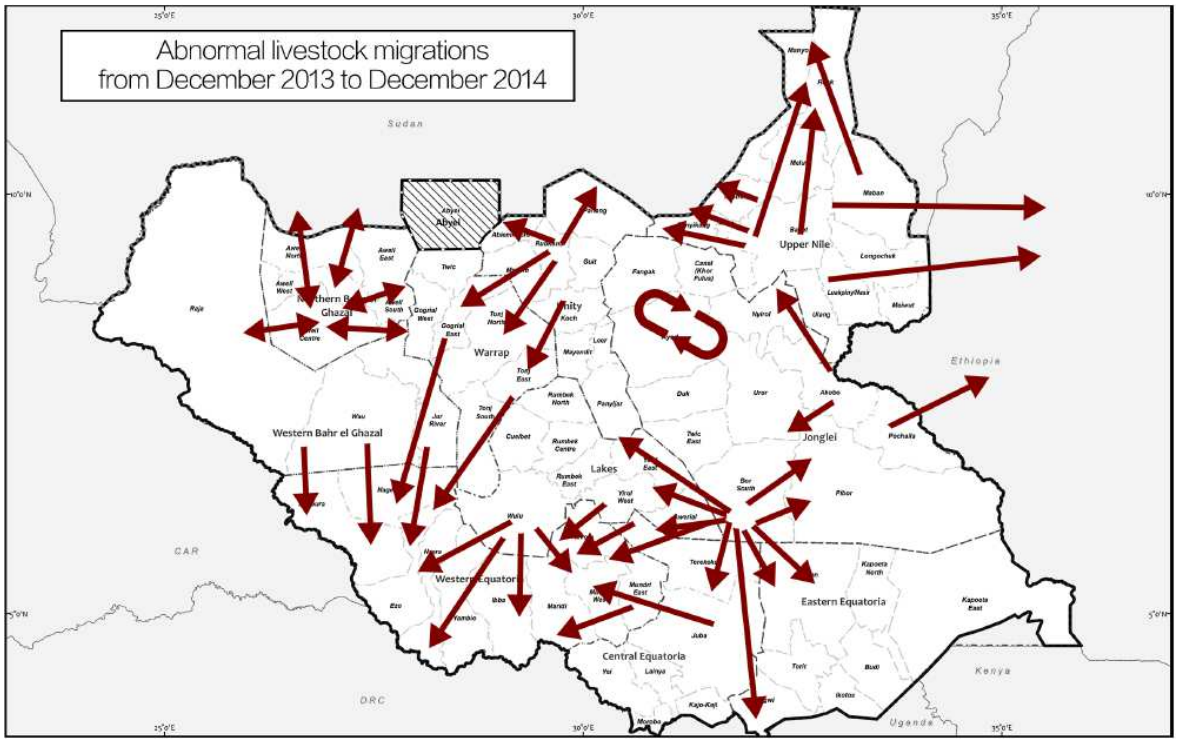


Figure 23: Map showing abnormal livestock migration *Source: FAO, Livestock Alert 2014*

Source: FAO, Livestock Alert 2014.

Diseases have spread to previously uninfected areas following the animal movements. Outbreaks of diseases like East Coast Fever, foot-and-mouth disease and trypanosomiasis which devastate cattle production and threaten the food security and livelihoods of pastoral communities have been reported. Additionally, the condition of livestock has deteriorated during the dry season due to inadequate pasture and water, coupled with disease outbreaks in areas of livestock concentration.

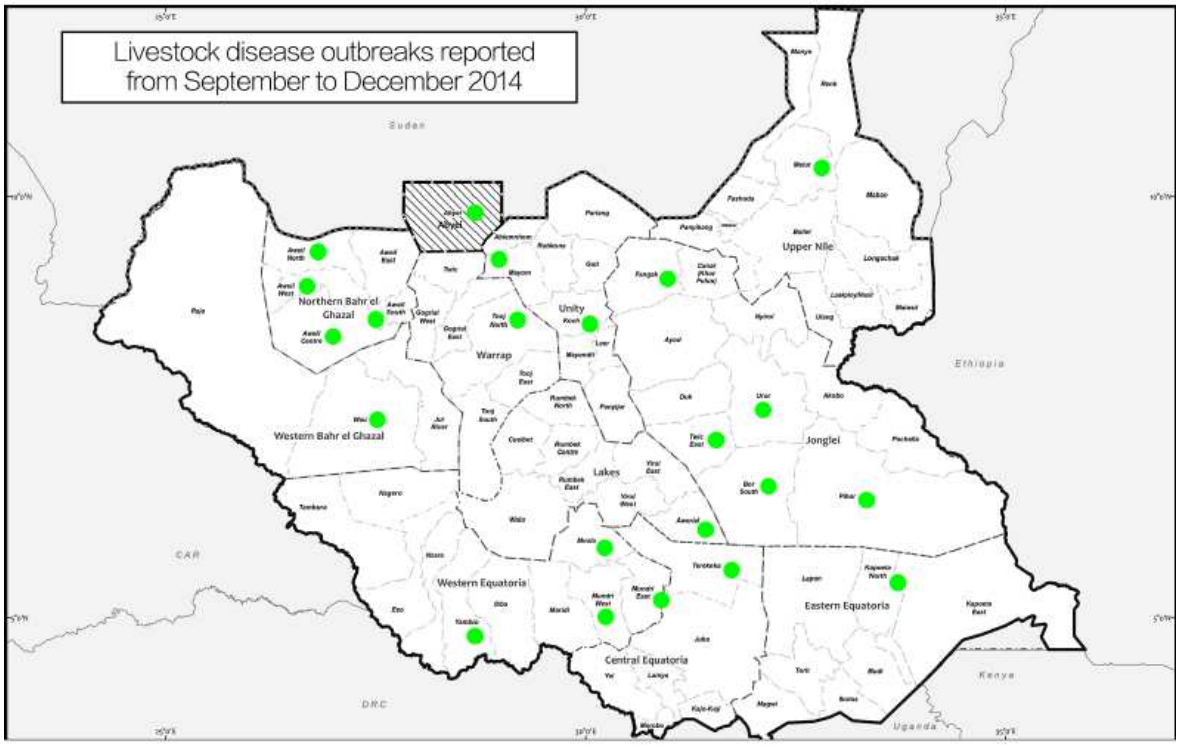


Figure 24: Map of Livestock Disease Outbreaks from September to December 2014 Source: FAO, Livestock Alert 2014

Livestock out-migration far from homesteads in search of pastures and water has also limited households' access to regular milk, just as conflicts over resources and cattle rustling have increased. This has led to negative consequences on food security and nutrition status of affected population especially in the Greater Upper Nile states as well as some areas in bordering states like Eastern Equatoria, Warrap and Lakes.

Factors affecting Livestock

Some of the main factors affecting the livestock sector are:

- The **current conflict and political crisis**, which have resulted in massive displacement and disruption of movement of livestock, threatening the national herd and tearing at the social, political and economic fabric of the country;
- **Limited investments** by government and private sector ;
- **Climatic change** impacts causing shrinking and degradation of pasture and water resources for livestock production;
- **Insecurity and tribal conflicts** manifested in cattle rustling;

- **Poor marketing infrastructure and information**; and
- **Endemic livestock diseases** affecting animal health, especially East Coast Fever (ECF), Foot-and-Mouth Disease (FMD), Contagious Bovine Pleura-pneumonia (CBPP), all leading to poor animal productivity and diminishes the prospects for livestock product exports (FAO/MARF Livestock Assessment Report of 2011).

Other structural challenges affecting livestock include:

- Inadequate access to veterinary and advisory services;
- Low breed potential and reliance on traditional husbandry practices; and
- Inadequate water and grazing/forage resources during the dry season.

The massive displacement of cattle, restricted movement and confinement to limited areas has:

- Caused tensions between communities, resulting in tribal conflicts as well as conflicts with local agricultural communities over access to resources;
- Disrupted the pastoral production system;
- Disrupted power structures;
- Altered livestock disease patterns, with many disease outbreaks reports in 2014; and
- Increased the scale of cattle raiding.

Contribution of livestock in household's income and food

Livestock plays a vital role in household livelihood. It represents household savings, assets and sources of food and income. The average household income from estimated livestock sale per annum is estimated at SSP1,500. Goats and other ruminants provide a very important source of protein for majority of households.

The role of Animal Source Foods (milk, meat, eggs and blood) in improving micronutrient status is well known, with elevated nutritional benefits including vitamin A, vitamin B12, riboflavin, calcium, iron and zinc levels. In particular, the extent to which pastoralists depend on milk compared to other animal products has been attributed to an efficiency of energy production, as well as to the availability of grazing. Dairy products also mean pastoralists are presented with options: they can choose to convert some of the raw milk into some form of preserved dairy product such as yoghurt, butter or ghee, and exchange some of these products for other goods, or retain the preserved form of protein and fat as a food source for the family in lean periods. Animal proteins, when available, complement the nutritionally dense food products designed to protect children under-five and pregnant and lactating women from the risk of malnutrition. The complementarity of the two interventions ensures that intra-household food consumption for the most vulnerable members occurs by improving, at the household level, access to nutritious foods and specifically designed foods that target children under-five and pregnant and lactating women.

Livestock Value Chain in South Sudan

The concept of value chain is mainly centred on the series of activities that are performed by chain actors to transform raw material into products which can be consumed. This includes input supplying, producing, assembling or collection, trading, processing, whole selling, retailing and consuming. Livestock value chain is broad and can be analysed along livestock subsectors such as poultry, dairy and meat value chain.

The full potential of the livestock value chain – along all the livestock sub-sectors – is not being exploited in South Sudan, limiting the contribution of livestock to the food basket and the economy. This is partly attributed to long-standing conflicts which destroyed physical capital, institutions and opportunities to learn. The livestock value chain, hence, faces difficulties in production, processing and marketing. To make the livestock economically useful, a multi-sector approach and promotion of appropriate innovations is required.

All the livestock sub-sectors in the context of South Sudan, hence, still remain largely under-developed across the country. Perhaps, the biggest most used yet unattended sub-sector is that of slaughter. This needs more urgent attention if quality and human safety measures for the production and consumption of meat across the country are to be achieved.

In a nutshell, the constraints facing livestock value chain include:

- Livestock diseases;
- Poor infrastructure (roads and slaughter slabs);
- Cattle rustling and insecurity;
- Poor management of livestock;
- Poor livestock marketing infrastructure and market information system;
- Multiple clearance checkpoints and roadblocks;
- Inadequate meat inspection, e.g. low knowledge/skill level of meat inspectors; and
- Poor enforcement of quality standards in both processing and retailing functions in meat value chain.

Programmatic implications

Response options in the livestock sector to support resilience of pastoral communities include:

- Increasing access to animal healthcare services - expanding the community-based animal health network and vaccination programme;
- Improving milk production and promoting marketing of milk and dairy products including milk hygiene and safety;
- Strengthening livestock marketing, including meat handling and hygiene;
- Improving animal disease monitoring and surveillance to ensure effective disease prevention and control measures;
- Enhancing production capacity and strengthening production skills through agro-pastoralist field schools (A-PFS) where useful local skills are tested, evaluated and promoted and new skills are introduced to enhance the capacity of vulnerable households to generate increased agriculture-based income;
- Strengthening and decentralizing the cold chain system for livestock vaccines;
- Developing pastoralist early warning system indicators as precursors for destocking;
- Enacting policies that promote local entrepreneurs in the fields of local poultry farming;
- Commercializing the livestock value chains in their various sub sectors;
- Strengthening cattle-related conflict risk reduction; and
- Building of capacity for fodder production, rangeland and water management to address the rebuilding of livestock and livelihood assets during the dry season and other feed shortage related crises

Fisheries resources

Fisheries Potential in South Sudan

South Sudan is well endowed with water resources, having many natural lakes, a diverse river system, numerous wetlands, swamps and floodplains. South Sudan is reasonably rich in inland fishery resources and therefore has great potential for fisheries development.

Annual estimates indicate that there is potential for sustainable harvest of 300,000 MT of fish on a yearly basis in South Sudan's water bodies, based on assessments by FAO (1989) and GIZ (2010). However, only 40,000 tons are actually harvested annually, of which a sizeable proportion is lost in the fishing areas due to lack of preservation, processing, and transportation facilities.

South Sudan presents a variety of fish species which totals about 115 fresh water commercial species. The most common commercial fish species include Tilapia, Latesnilotic, Syndontis, Bagrus, Clarias, Labeo, Heterobranchus, Gynmarchus, Eutorpius, Alestes, Citharinus, Polypterus, Malapterurus, Mormyrus, Distichodus, Hydrocynus, Tetraodon as well as others.

It is estimated that some 15-25 % of the population depends on fisheries products as part of their nutritional needs. The contribution of fish proteins to the daily diet could as well reach 80 % for the population living along permanent swamps.

Challenges to the fishing sector

a) **Lack of institutional capacity,** both for Government and private sector for investing on commercial fishing in the fisheries' sector.
b) **Post-harvest fish losses due to spoilage and infestation**, estimated around 35 to 40%, especially in humid conditions during rainy season.
c) **Lack of access to credit** for investments in the fisheries sector.
d) **Lack of infrastructures**, such as fish markets, cooling facilities, construction of fish landing sites and access roads.
e) **Lack of establishment of fishermen union/cooperatives** to promote better polices at local and national levels, particularly on sustainable fisheries management and production.
f) **Lack of market information for fishery products and the fisheries value chain,** to contribute to detect the needs and opportunities, as well as identifying stakeholders in the sector, and improve the available information.
g) **Lack of data that capture fisheries and consumption needs for fisheries resources.**

Programmatic Implications

To achieve full potential in the fisheries sector, the following are some of the response options:

- Encourage the private sector through appropriate government investment polices to invest in commercial fishing and provision of credit for investment in fisheries sector;
- Support skill transfers and introduction of appropriate technology in fisheries sector such fishing methods, post –harvest fish loss management, value addition and marketing;
- Improve infrastructures through construction of landing sites, cooling facilities, marketing and access to distant fishing grounds and roads to support fishery industry;
- Establish fishermen Union/cooperative and fisheries co-management for fisheries management and increase production sustainably;
- Improve market information to increase available information; and
- Develop data systems for fisheries consumption and capture fisheries.

Nutrition

Prevalence of malnutrition

The December 2014 FSNMS recorded a prevalence of Global Acute Malnutrition (GAM) of 12.5% (WHZ<-2 and/or oedema) whilst Severe Acute Malnutrition (SAM) stood at 3.2% (WHZ<-3 and/or oedema). In comparison to the September 2014 FSNMS, the overall nutrition situation has shown an improvement from a GAM rate of 15.9% (WHZ<-2 and/or oedema) and a SAM rate of 4.4% (WHZ<-3 and/or oedema). Looking at the prevalence of acute malnutrition based on the Mid Upper Arm Circumference (MUAC) thresholds of < 125mm, the December 2014 FSNMS also showed an improved nutrition situation compared to September 2014, from 11% to 7.6%. A comparison to October 2013 also indicates a slight decline in the overall acute malnutrition prevalence from 8% to 7.6%. The improvements have been registered in Central Equatoria, parts of Northern Bahr el Ghazal, Western Bahr el Ghazal, Eastern Equatoria states as well as Leer, Mayendit, Rubkona (Unity State), Fashoda (Upper Nile State) and Raja (Western Bahr el Ghazal).

However, despite these improvements, the nutrition situation remains a concern as the prevalence of GAM is above emergency level (GAM> 15%) in the conflict affected areas and the Warrap State while nearing the emergency level at 14.6% in Northern Bahr el Ghazal. These results are very much consistent with the ongoing socio-political situation in South Sudan with insecurity, population displacement, disruption of livelihoods and poor access to some areas in the conflict affected States and the historical trend of high levels of malnutrition in the traditionally high burdened states (Warrap and Northern Bahr el Ghazal) in the non-conflict affected areas. Warrap and Northern Bahr el Ghazal also experience the highest levels of food insecurity outside the conflict states characterized by high commodity prices, increasing cereal deficits, in some locations contributed by flooding.

The December 2014 FSNMS also assessed the nutritional status of women of child bearing age (15-49 years of age) through MUAC measurements. The rate of acute malnutrition (MUAC < 230 mm) among women was 10.4% compared to 15.8% in September 2014. Out of the 4,132 women 15 to 49 years old assessed, 9.8% were pregnant, 46.8% were lactating while 43.4% were neither pregnant nor breastfeeding. Malnutrition was more prevalent among the pregnant and lactating women of whom, 17.4% (n=363) and 17.8% (n=1,916) respectively were malnourished (MUAC < 230mm). The prevalence among non-pregnant and non-lactating women (n= 3, 9930) was 0.7% (MUAC < 23 mm). Looking at the situation from the State level, acute malnutrition among women was highest in Unity (18.7%), Warrap (17.6%), Eastern Equatoria (17.5%) and Jonglei (16.5%) states.

Seasonal nutrition trends from regular screening during FSNMS

Seasonal trends analysis of the FSNMS nutrition data in 2014 shows that global acute malnutrition was at 15.9% (WHZ<-2 and/or oedema) in July and decreased to 12.5% (WHZ<-2 and/or oedema) in November. Based on MUAC measurements, malnutrition rates peaked at 11% in August while falling at 7.6 % in November. This observed pattern is very similar to 2013 where the rates stood at 11% in June then dropped to 9% in October. State level analysis highlighted that Warrap has been the most afflicted state throughout the three rounds of FSNMS in 2014. GAM prevalence based on MUAC for this state stood at 21.1% in February, 35% in July and 13% in November. Those malnutrition levels mimic the pattern of the agriculture seasons with the gradual installation of the hunger gap from February until the start of the harvest season in the last quarter of the year. The noticeable betterment of the overall nutrition situation

in November 2014 can be attributed to not only the improvement of the food security indicators during the harvest period but also to the increased humanitarian assistance and nutrition support in response to the crisis.

Although SAM levels have slightly improved in 2014 according to the FSNMS surveys, the rates have however stayed above the emergency threshold of 3% indicating that the overall improvement of the nutrition situation is more related to the decrease of MAM cases. This suggests that in the context of South Sudan, the overall improvement of the food security situation has a greater influence on the proportions of MAM cases.

Amongst women of child bearing age, the trend analysis for 2014 showed a decrease of the prevalence of malnutrition (MUAC cut-off of <230mm) from July to December, a pattern similar to the one observed for the prevalence of childhood malnutrition which follows the usual seasonal fluctuation in acute malnutrition. However, compared to the previous year, for the same period, the nutrition situation amongst women of child bearing age has deteriorated from 6.7% to 10.4% (MUAC cut-off of <230mm).

Child feeding practices

Although the practice of exclusive breastfeeding was not recorded, according to FSNMS data analysis of December 2014, continued breastfeeding at one year stood at 76.5% in South Sudan thus not yet universal. The same indicator at two years was a little lower at above 50%. Nearly a third of the children are not introduced on complementary food at the right time, and minimum acceptable diet has some of the lowest rates across all the states. Regarding minimum dietary diversity, only 28.4% of the children receive foods from four or more food groups during the previous day. Consumption of iron rich or iron fortified foods stood at less than 50%. Those results are consistent with previous FSNMS surveys stressing the fact that infant and young child feeding (IYCF) practices are generally poor in South Sudan.

Childhood morbidity

Almost 60% of the children aged 6-24 months had one or more illnesses in the two weeks preceding the assessment according to the December 2014 FSNMS. Fever was the most reported illness with 46.7% of the children affected followed by diarrhea (21.2%) and ARI 12.9%. Morbidity rates were above the national average in EES (71%), Lakes (70.3%) and WBeG (71%). Compared to the previous FSNMS in August, the situation has deteriorated from 30% of the children reported one or more illnesses in the past two weeks.

Programmatic implication

To improve the nutritional situation in South Sudan, the following measures are recommended:

- Feeding programmes of a curative nature (targeted therapeutic and supplementary feeding programmes, TFP and TSFP) remain necessary to treat the more vulnerable categories such as the children under-five and the pregnant and lactating women. Some states namely Jonglei, Upper Nile, Northern Bahr El Ghazal and Warrap appear to have a greater burden of acute malnutrition. Consequently treatment programmatic response should be prioritized in these states.
- There is a need to focus and strengthen the preventative services alongside continuing the treatment programs in Warrap, and Northern Bahr el Ghazal as GAM rates still manifest at very high levels in these states.

- Under the UNICEF/WFP joint scale up plan signed in July 2014, an improvement was observed in the coverage of OTP and TSFP service distribution. However, alignment of those services at site level still remain a challenge. Therefore, the development of mapping of MAM/SAM coverage gaps should move a step further by recommending the number of OTP/TSFP sites per geographic level (payam/county). Moreover, an active advocacy should be directed at partners to implement the OTP/TSFP package at site level.
- As expected acute malnutrition is seasonal (FSMS trends), with wasting peaking during the 'lean' season, when food availability is reduced, childhood illnesses associated with the rainy season are prevalent and there is increased demand on caretakers to attend to farming activities. Programmes and strategies to cushion, especially the vulnerable categories, from the effects of the interplay among these factors remain necessary in South Sudan. Predominantly, these consist of Blanket Supplementary Feeding (BSFP) for the younger children and the pregnant and lactating women.
- Improvements in IYCF require long-term attention to not just knowledge building but also individual attitude change and access to enabling environment for practices to change. It may be timely to invest in formative research so that behavioral change communication (BCC) strategies are informed by and adapted to the communities in question.
- A social safety net approach is required to support communities (population segments) lacking physical or economic access to the right foods. At a broader level, it is necessary to ensure that agricultural/livestock policies and programmes are nutrition sensitive to ensure that the food available to populations in general is nutritionally diverse.
- Along-side investments in health service sector, there is need to maintain campaigns – including mop-up – to achieve and sustain optimum coverage of measles and vitamin A supplementation to guarantee protection for the children. Considering that building skilled health workers will take time, the use of community resource persons (provided with minimal training) to routinely deliver a basic package of interventions at the community should be explored by government and non-government actors alike.

Finally, it is crucial to increase the nutrition surveillance and needs analysis in South Sudan. Improved data collection and analysis is needed to inform the calculation of refined national targets in order to identify priority areas for a targeted nutrition response and decision making. The integration of nutrition indicators in the FSNMS alongside the inclusion of a nutrition situation analysis and mapping in the Integrated Food Security Phase Classification (IPC) are example of good practices to be made sustainable in support of this objective.

State level Analysis and matrix

Western Equatoria

In 2014, almost all counties of Western Equatoria experienced a deterioration in food security. However, the CFSAM report highlights a surplus for the overall state. Markets are operating sub-optimally and fragmented due to poor road linkages.

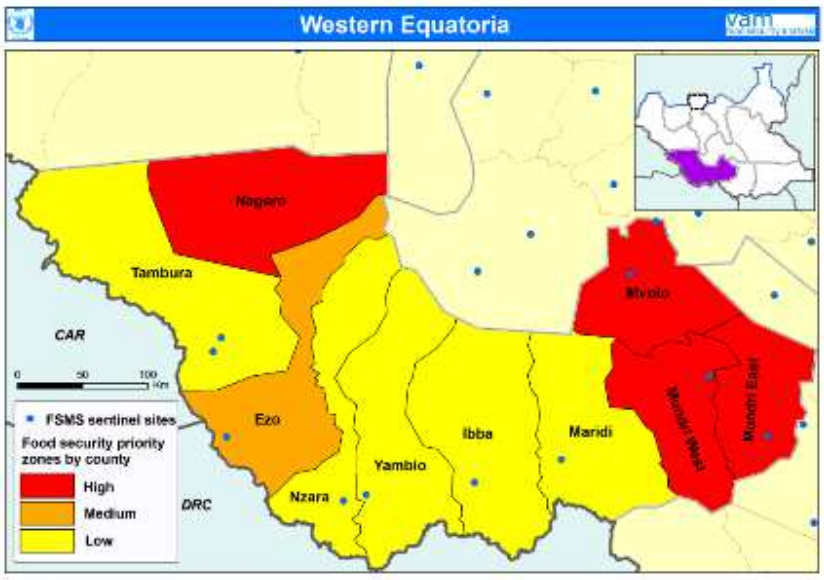
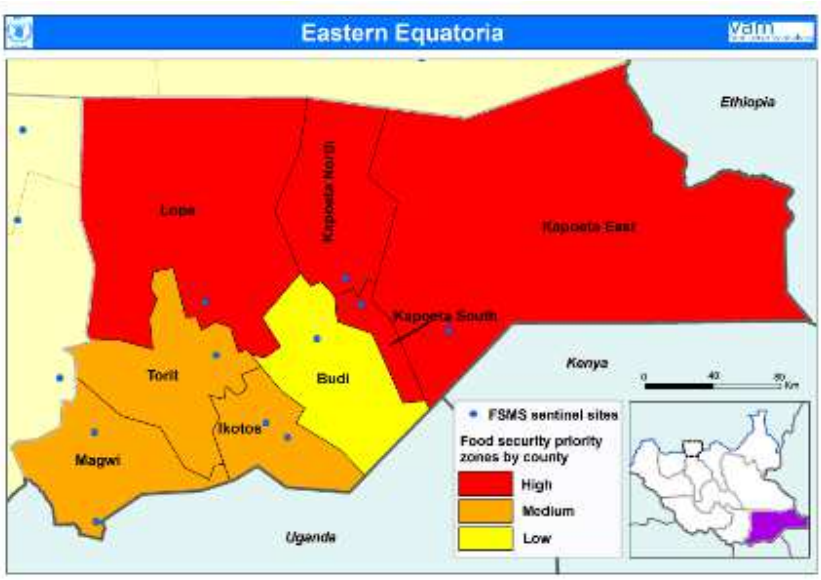


Figure 25: Map of Western Equatoria

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Ezo	104180	46108	0	Severely Deteriorated	150288	1.6	150289	21 345
Ibba	48681	21035	0	Severely Deteriorated	69717	1.4	69718	9 219
Maridi	102084	35088	0	Deteriorated	137172	1.5	137173	10 521
Mundri East	59947	26492	0	Deteriorated	86440	1.25	86441	-1 210
Mundri West	54538	28922	0	Deteriorated	83460	1.7	83462	2 185
Mvolo	60571	31526	0	Severely Deteriorated	92097	1	92098	-3 644
Nagero	15788	7597	0		23385	1	23386	210
Nzara	75151	27307	0	Severely Deteriorated	102458	1.5	102459	17 334
Tambura	73554	26004	0		99559	1.4	99560	12 980
Yambio	189999	70904	25	Severely Deteriorated	260928	1.5	260929	17 827
	784492	320985	25		**167 340**	**1.47**	**196 765**	**86 767**

Eastern Equatoria

Compared to 2013, the food security situation has improved in Eastern Equatoria. Last year's rainfall underpinned crops production and enhanced the regeneration of pastures. However, lack of surplus was observed in a few counties. About 7500 IDPs are also living in this state.



County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Budi	114569	64132	0	Improved	22 066	1.2	21 184	7 697
Ikotos	129557	58527	3096	Improved	23 295	1.2	22 363	5 928
Kapoeta East	188499	85154	0	Improved	17 431	0.8	11 156	-11 995
Kapoeta North	118052	67242	0	Improved	9 630	0.8	6 163	-8 125
Kapoeta South	92824	42844	0	Improved	7 419	0.8	4 748	-7 149
Lafon	133352	64170	0	Improved	14 717	1	11 774	-2 905
Magwi	204717	72376	4470	Improved	38 119	1.5	45 742	21 573
Torit	140795	53925	0		18 285	1.3	19 016	1 316
	1122365	508370	7566		**150 962**	**1.18**	**142 146**	**6 338**

Jonglei

Jonglei has been experiencing critical times over last year due to the conflict. Although recent and accurate data are not available in some areas, it is evident that most of the counties are highly affected by food insecurity. The conflict inhibited crop and livestock production resulting in a food deficit.

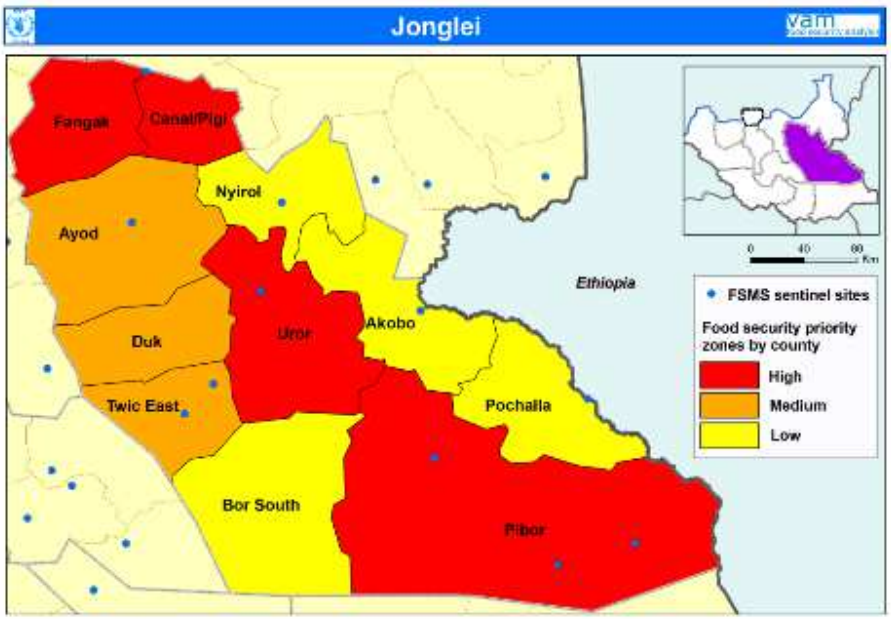


Figure 26: Map of Jonglei

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Akobo	173321	88510	70417	Severely Deteriorated	3 949	0.7	2 212	-14 994
Ayod	172038	104750	77484	Severely Deteriorated	938	0.7	525	-17 003
Bor South	287361	141103	79386		2 208	0.9	1 589	-21 460
Canal/Pigi	121939	52691	82238		2 157	0.7	1 208	-18 068
Duk	118944	63077	2666		0	0	0	-11 889
Fangak	160298	86582	53709	Deteriorated	2 586	0.7	1 448	-9 098
Nyirol	136849	57789	147104	Severely Deteriorated	3 795	0.8	2 429	-12 873
Pibor	171756	74217	0		6 050	1.3	6 292	-7 658
Pochalla	86089	47375	0		5 007	1.3	5 207	-2 685
Twic East	124977	61367	20000	Improved	1 389	0.6	667	-12 679
Uror	205498	80724	46699	Deteriorated	3 188	0.6	1 530	-21 331
	1759071	858186	579703		**31 268**	**0.92**	**23 108**	**-149 738**

Lakes

Counties bordering the conflict affected states have been affected due to the ongoing violence since it is bordering with Greater Upper Nile. Increasing number of IDPs and fear of the conflict negatively affected harvested areas resulting in high food insecurity in the state. Being one of the key livelihood dependant states, Lakes may need programmes addressing both emergency response and long term programming.

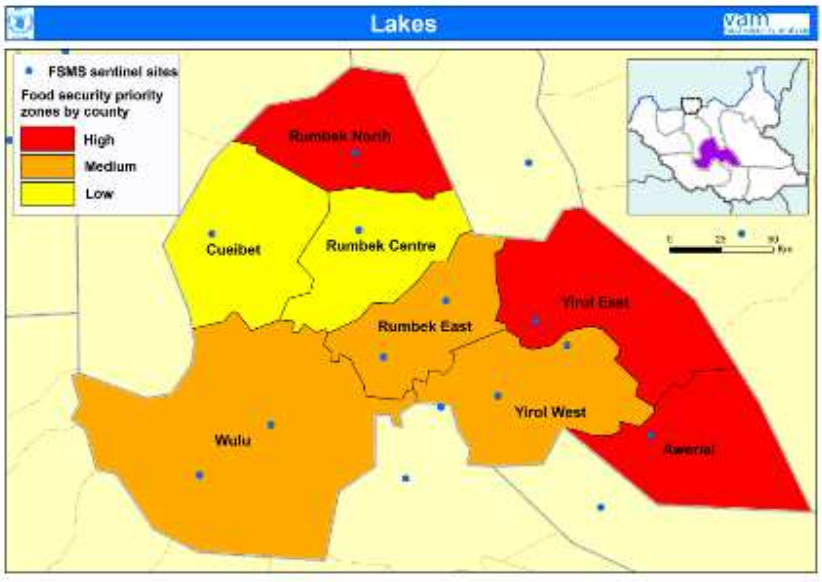


Figure 27: Map of Lakes

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Awerial	58123	27399	101238	Slightly Improved	5 846	0.9	4 209	-7 692
Cueibet	177652	85488	3910		17 883	1.2	17 168	-2 441
Rumbek Centre	239349	103424	5662	Improved	14 925	1.4	16 716	-9 366
Rumbek East	188944	85355	3945	Deteriorated	14 008	1.4	15 689	-4 979
Rumbek North	54294	30392	4270	Severely Deteriorated	4 002	1.4	4 482	-1 038
Wulu	73641	28928	0	Improved	8 230	1.2	7 901	165
Yirol East	121575	63278	13495		10 567	1	8 454	-5 384
Yirol West	161556	80915	1272	Improved	18 016	1.2	17 296	-78
	1075135	505179	133792		**93 477**	**1.23**	**91 914**	**-30 812**

Upper Nile

Similar to Jonglei state, Upper Nile also have been experiencing a very difficult year as a result of the ongoing conflict. The following table shows high prevalence of food insecure population and significant production deficits in almost all counties. IDPs are further displaced from one place to another and continuous violence have made people very vulnerable. Due to this, for this year the focus will be primarily on emergency response.

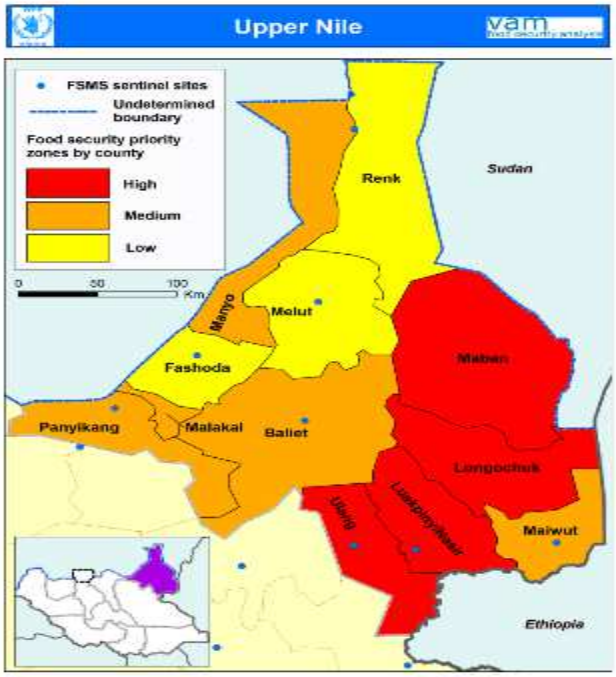


Figure 28: Map of Upper Nile

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Baliet	61515	19332	12825	Severely Deteriorated	300	0.8	192	-1 739
Fashoda	42548	8775	38106		991	0.8	634	-2 723
Longochuk	81137	24701	1800		675	0.6	324	-5 692
Luakpiny/Nasir	252644	79395	31528	Severely Deteriorated	3 031	0.6	1 455	-19 875
Maban	63140	16122	0	Improved	3 461	0.6	1 661	-2 987
Maiwut	102044	27057	9562	Severely Deteriorated	982	0.6	472	-8 226
Malakal	150148	17696	58134	Improved	0	0		-14 091
Manyo	63912	11925	0	Improved	0	0		-3 980
Melut	58254	12014	23278	Improved	5 522	1	4 418	-2 150
Panyikang	51973	10718	5000		0	0	-	-2 055
Renk	179171	38724	13500	Improved	19 751	0.6	9 480	-6 539
Ulang	108385	40447	0	Severely Deteriorated	1 326	0.6	636	-8 885
	1214871	306907	193733		**36 040**	**0.67**	**19 273**	**-78 942**

Western Bahr el Ghazal

In 2014, Western Bahr el Ghazal has been experiencing lower than average internal production. Although the figures below shows slight improvements in food security, proper planning and development interventions will be key to achieve a surplus in the current year.

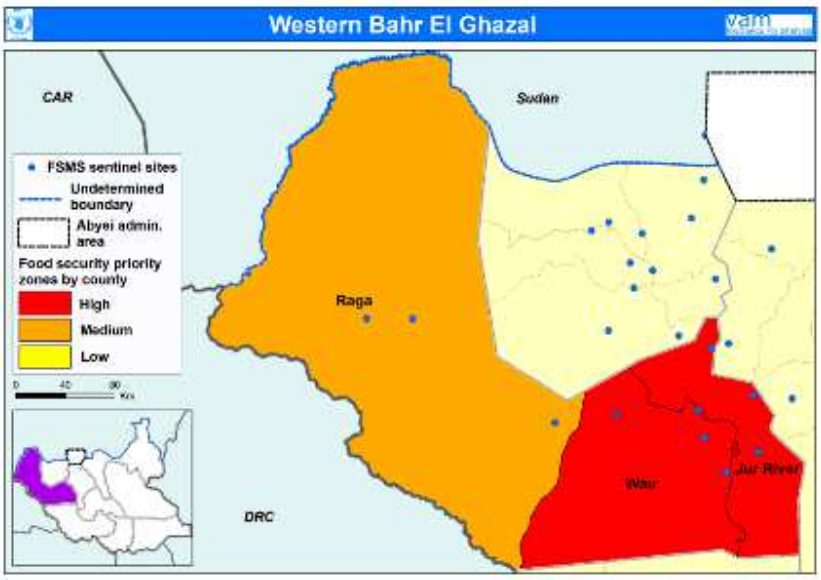


Figure 29: Map of Western Bahr el Ghazal

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Jur River	201947	118994	0	Severly Deteriorated	320942	1.3	24 726	2 631
Raga	87555	34394	0	Improved	121948	1.4	12 383	3 956
Wau	237163	95492	12652	Improved	345308	1.4	38 285	9 457
	526666	248880	12652		**69 015**	**1.37**	**75 395**	**16 044**

Northern Bahr el Ghazal

Due to the ongoing violence, Norther Bahr el Ghazal experienced lack of trade, which resulted into price hikes. Due to the irregularities in rainfall the state is also expected to have deficit in crop production in 2015. The food security situation has deteriorated in almost all counties.

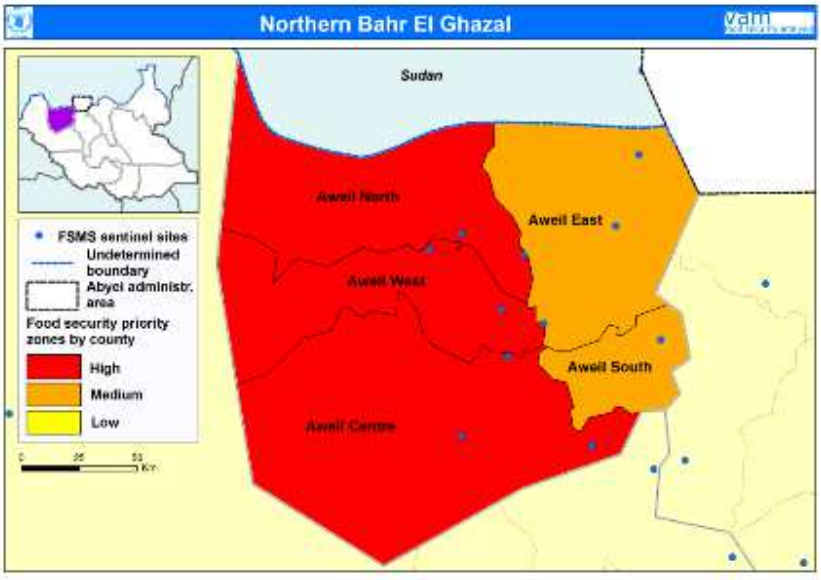


Figure 30: Map of Northern Bahr el Ghazal

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Aweil Centre	108470	80958	574	Deteriorated	5 958	1.2	5 720	-6 058
Aweil East	538765	396824	52	Improved	55 093	1	44 075	-14 976
Aweil North	272097	205756	0	Severly Deteriorated	25 346	1.1	22 305	-7 790
Aweil South	147280	118603	0	Severly Deteriorated	11 836	1.2	11 362	-4 867
Aweil West	302372	198954	108	Deteriorated	29 497	1.23	29 025	- 4 624
	1368984	1001094	734		**127 730**	**1.1**	**112 486**	**-38 315**

Warrap

Warrap has been affected by the ongoing violence. Increasing numbers of IDPs and insecurity have directly affected the population. Along with the deteriorated food security situation, there has been a deficit in agricultural production in almost all counties.

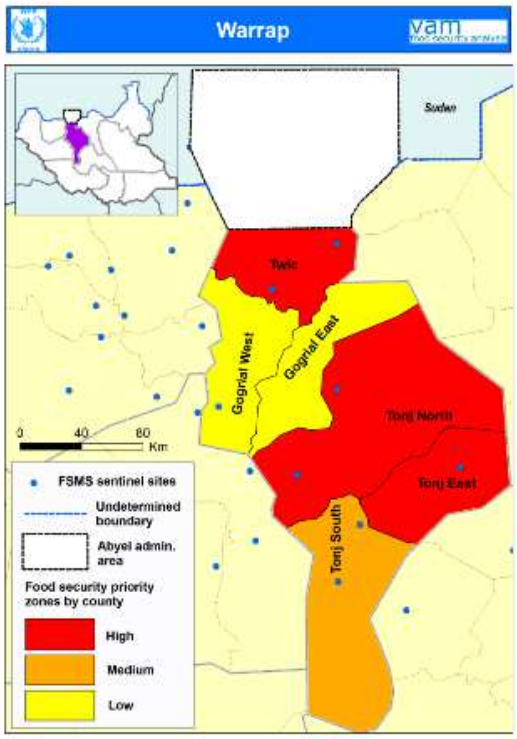


Figure 31: Map of Warrap

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Gogrial East	144788	91002	1120	Severly Deteriorated	10 758	1	8 606	-4 297
Gogrial West	326139	201781	0	Severly Deteriorated	41 781	1.4	46 794	12 767
Tonj East	134803	88698	0		10 784	1	8 627	-3 931
Tonj North	211921	139439	5930	Deteriorated	18 736	1	14 989	-5 664
Tonj South	110436	60734	0	Severly Deteriorated	13 654	1.3	14 200	4 895
Twic	348866	216351	1703	Severly Deteriorated	26 333	1.3	27 386	-5 187
Abieyi					2 256	1.3	2 346	-3 488
	1276953	798005	8753		**124 301**	**1.24**	**122 949**	**-4 907**

Central Equatoria

Central Equatoria, being a very important state (due to the centre of government and politics) has been facing a stress situation. Although the violence in Greater Upper Nile states did not have any direct effect, markets and production faced negative influence in terms of trading. The usual food insecurity is not very high, but could see improvements. In the state there are about 63,000 IDPs.

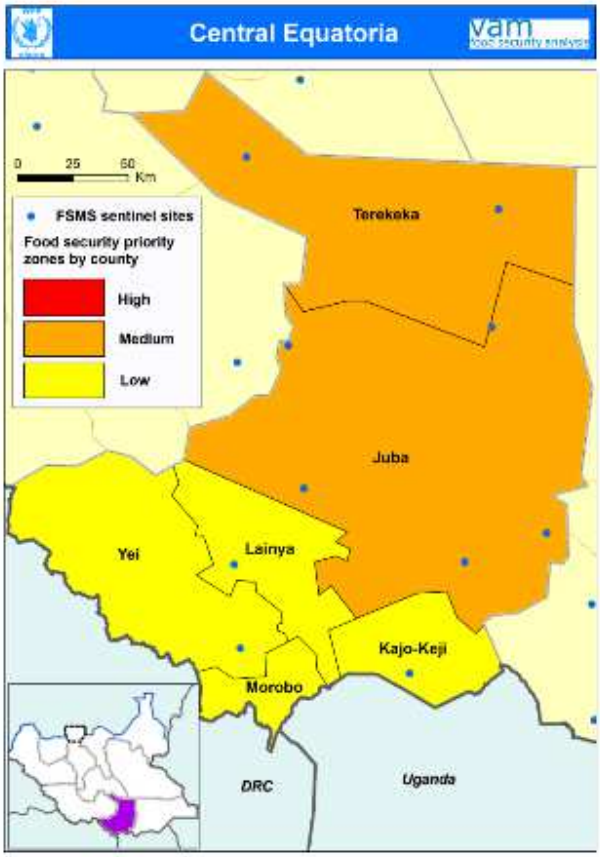


Figure 32: Map of Central Equatoria

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Juba	501659	177468	45057	Improved	37 373	1.10	32 888	-35 800
Kajo-keji	270234	119423	0	Improved	55 723	1.50	66 868	34 400
Lainya	145797	63000	0	Improved	21 508	1.50	25 810	8 395
Morobo	191764	77213	0		25 099	1.60	32 126	8 877
Terekeka	179245	121460	18303	Deteriorated	18 409	1.10	16 200	-6 532
Yei	265487	88646	77	Same	40 814	1.50	48 977	15 856
	1554187	647209	63437		198 926	1.4	222 869	25 196

Unity

Unity has been one of the worst affected states by the ongoing conflict. Most of the counties were inaccessible by humanitarian partners. However it is evident that the huge displacement of people has caused severe food insecurity in all counties and huge production deficit.

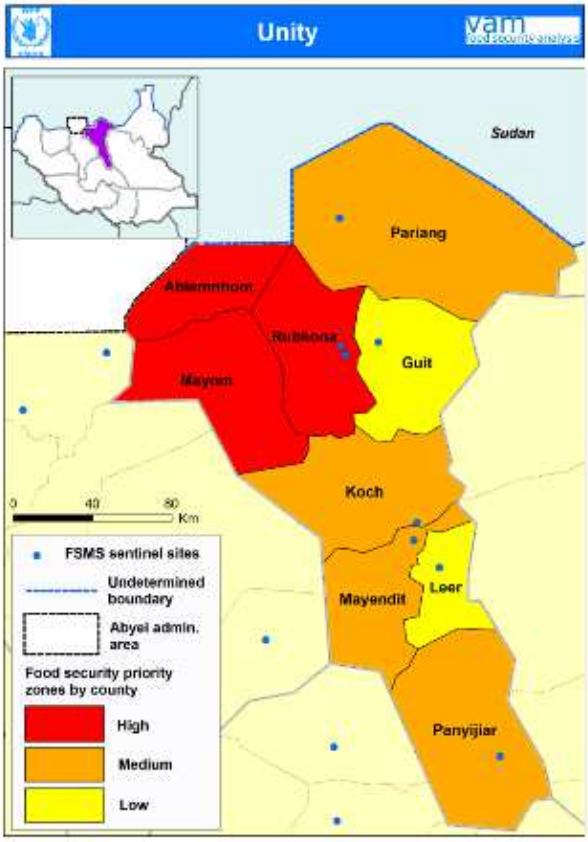


Figure 33: Map of Unity

County	Population-Mid 2015	Estimated Food Insecure	IDP Population	Food Security Trend (Annual)	Cereal area 2014 (ha)	2014 gross yield (t/ha)	2014 net cereal production (t)	2015 surplus/ deficit (t)
Abiemnhom	23796	12385	2000		470	0.4	150	-1 386
Guit	47718	35147	10000	Improved	0	0	-	-2 709
Koch	135205	88962	33750	Severly Deteriorated	2 675	1	2 140	-9 520
Leer	115798	81879	1800		2 328	0.6	1 117	-11 061
Mayendit	80453	60837	25000		2 644	0.6	1 269	-6 208
Mayom	180057	129083	41539		0	0	-	-13 693
Panyijiar	76099	52313	70257		3 058	0.4	978	-7 303
Pariang	144292	104860	18240	Improved	3 612	0.9	2 601	-9 268
Rubkona	208507	102383	78174		0	0	-	-19 150
	1011925	667849	280760		**14 786**	**0.7**	**8 256**	**-80 298**