

EMERGENCY MARKET MAPPING AND ANALYSIS (EMMA)

SORGHUM MARKET IN ABYEI ADMINISTRATIVE AREA, NORTHERN BAHR EL GHAZAL AND WESTERN
BAHR EL GHAZAL

A REPORT FOR THE DECEMBER 2013 CRISIS



EMMA Dates: 24th February – 4th March 2014



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Abbreviations and Acronyms

AAA	Abyei Administrative Area
EMMA	Emergency Market Mapping and Analysis
EVI	Extremely Vulnerable Individuals
FFA	Food for Assets
FFE	Food for Education
FSL	Food Security and Livelihoods
IDPs	Internally Displaced Persons
IOM	International Organization for Migration
NBeG	Northern Bahr el Ghazal
RAM	Rapid Assessment of Markets
SPEDP	Sudan Peace and Education Development Program
UN OCHA	United Nations Office for Coordination of Humanitarian Affairs
WBeG	Western Bahr el Ghazal
WFP	World Food Program

Executive Summary

Mercy Corps, Goal and SPEDP organized an Emergency Market Mapping and Analysis (EMMA) between February 24th and March 4th, 2014. Due to the crisis of December 2013 between pro-government and anti-government forces, which is believed to have impacted the movement of goods, Mercy Corps undertook a rapid assessment of markets (RAM) and one of the key recommendations to further understand the market system, was conducting an EMMA. The assessment was conducted by a team comprised of 12 members from the above organizations covering the sorghum market in three geographical locations – Abyei Administrative Area (AAA), Northern Bahr el Ghazal (NBeG), and Western Bahr el Ghazal (WBeG). After the initial preparations involving training of members, EMMA participants split into three teams, each covering one geographical area. The objective of the EMMA was to provide food security and livelihoods partners with option on how to address the current food security issues.

During the training and background information, it was agreed that sorghum was the critical market through which to examine food security. Households eat sorghum at least six times per week which shows how important sorghum is for households' food security.

The key findings in the sorghum market system included:

- The major shock for sorghum is not the December 2013 crisis, but the flooding that affected the 2013 harvest.
- Due to 2013 floods, many farmers lost their harvest, which required households to rely on sorghum purchased in the market earlier than expected, extending the hunger gap for 2014.
- Nevertheless, the current crisis has resulted in an unfavorable environment for the market to perform efficiently due to both supply and demand constraints. It has also affected the market for other commodities (maize, wheat flour etc.), which would otherwise buffer the shock in the sorghum market.
- The crisis resulted in displacement of people from conflict areas mainly Unity State into AAA, Warrap, NBeG and WBeG, increasing the sorghum demand in an already distorted market system.
- Apart from flooding and conflict, the border closure with Sudan is also a crucial constraint in the sorghum market in northern states of South Sudan. Prior to the border closure, Sudan was a major source of sorghum in the targeted areas. Following the trade embargo, the market system became less integrated, meaning it is less able to absorb shortfalls in the sorghum market.

While details will be provided later in the report, key recommendations for possible interventions include:

- In-kind distributions of food through General Food Distribution (GFD), Food for Assets (FFA), or Food for Education to increase sorghum supply in the region.
- Cash transfers to complement food distributions, increase purchasing power among the population for sorghum substitutes and other basic needs.
- Commodity vouchers to extremely vulnerable households for sorghum substitutes, as an alternative to cash transfers, if needed.
- Support farmers with inputs both through direct distribution of seeds & commodity vouchers for tools during the upcoming planting season (April/May) to support a robust sorghum harvest in September 2014.

Emergency Context

On December 15, 2013, fighting broke out in the South Sudan capital of Juba. The conflict quickly spread to other areas of the country, such as Jongalei, Unity and Upper Nile states. The armed clash and tense security situation that followed it displaced nearly 709,000 people internally, while 215,904 fled to neighboring countries. Although states targeted through the EMMA exercise, which included the Abyei Administrative Area (AAA), Western Bahr el Ghazal (WBeG), and Northern Bahr el Ghazal (NBeG) maintained relative "tranquility", they were indirectly impacted both because of significant IDP influx and strain in the supply of food and non-food commodities induced by the conflict in the country.

Jongalei, Upper Nile and Unity states are suffering severe consequences of the current crisis, including major displacements, a food security crisis and extreme insecurity. The greater Bahr el Ghazal states (AAA, Warrap, NBeG, WBeG) covered by this EMMA assessment do not face these problems to the same extreme. This report does not suggest programming in the states covered under the EMMA over Jongalei, Upper Nile and Unity, rather it provides guidance on programming around the sorghum production and market and recommendations to mitigate supply shortfall and hunger gap forecasted in 2014 for agencies already working in the state covered by the EMMA.

Sorghum is the main food source in South Sudan, which is typically obtained either from households' own production or is purchased in the market. However, recent food security indices have generally been worrisome. According to a crop and food security assessment in 2014¹, as of October 2013, 51% of the population in Western Bahr el Ghazal (WBeG) was food insecure (moderate and severe). Correspondingly, 31% of the population in Northern Bahr el Ghazal (NBeG) was food insecure². High food prices were one of the most ranked shocks experienced by households: 81% in WBeG, 70% in NBeG. The sorghum market has weathered multiple shocks over the past few years, including population increases, the border closure with Sudan – a major trading partner, flooding, a market fire, and the most recent conflict.

Abyei Administrative Area (AAA) continues to be a contested region between Sudan and South Sudan. After armed conflict in Abyei in 2011, the population of the Administrative Area south of the river Kiir more than doubled from 35,000 to an estimated 81,000³ individuals. Most of these Abyei IDPs have no plans to return north of the River Kiir. In October 2013, a non-binding referendum was held to allow residents of AAA to vote whether AAA should belong to Sudan or South Sudan. Between August and October 2013, the population increased by 5,100 people who returned to participate in the referendum.

States neighboring AAA, including Warrap, NBeG and WBeG, have also become home to IDPs from Abyei in addition to returnees from Sudan and neighboring countries. NBeG hosts the highest number of returnees in South Sudan with an IOM report for 2013 estimating a total increase of 13,618 individuals in 2013 with an overall total of 477,178 individuals since 2007. The same report indicates a total of 1,396 individual during the same calendar year in WBeG with a total of 127,086⁴ individuals since 2007. The December 2013 conflict has increased the population in these areas further with individuals migrating west to avoid armed conflicts in the east. AAA has received an additional 2,600 individuals, while neighboring Warrap state has received 13,100 individuals. WBeG has received 700 individuals and NBeG has received 1,200 individuals⁵.

Population movements have greatly increased demand for sorghum and other goods in AAA, WBeG and NBeG in recent years. However, several recent shocks have deteriorated the sorghum supply in these areas. Previously, Sudan was a major

¹ Crop and Food Security assessment mission for South Sudan by WFP VAM, February 2014
<http://documents.wfp.org/stellent/groups/public/documents/ena/wfp263188.pdf>

² Abyei was not included in the report, although some clusters treat AAA as part of Warrap, it will be misleading in this report to include Warrap data for AAA.

³ According to WFP distribution list available at RRC and WFP sub office in Wunrok, there are 81,000 individuals verified for general food distribution.

⁴ IOM tracking and verified returnees, a report by IOM circulated by UN OCHA to all humanitarian actors on 2nd December 2013.

⁵ UN OCHA, South Sudan Situation Report No. 26, March 10, 2014
(http://reliefweb.int/sites/reliefweb.int/files/resources/South_Sudan_Crisis_Situation_Report_26_as_of_10_March_2014.pdf)

source of sorghum for consumers in AAA. However, in 2012, Sudan began enforcing the border closure with South Sudan, resulting in severe consequences for traders⁶ caught illegally smuggling goods into South Sudan and reducing the amount of sorghum imported drastically. In August 2013, heavy rains caused major flooding in much of the country one month prior to the harvest season, greatly reducing the sorghum harvest in September and October 2013. During the hunger gap in May 2013, Anet Market in Agok, AAA experienced a fire in the market, which destroyed 1,050 bags of sorghum ready for sale.

To assist vulnerable households, WFP provides a family ration to all households including IDP and hosting households in AAA. Other agencies working in the area, including Mercy Corps, Goal and Save the Children, are also engaged in food security and livelihoods projects. These projects include seed and tool provision and temporary employment in the form of cash-for-work and vegetable growing which has greatly improved household food security and livelihoods.

Following the December 2013 crisis, Mercy Corps undertook a Rapid Assessment of Markets (RAM). The RAM highlighted that the majority of the population heavily relies on the market for food supply. The RAM also recommended a more in-depth analysis of the market system; therefore, Mercy Corps, Goal, and SPEDP sought to undertake an Emergency Market Mapping and Analysis (EMMA) for the critical market of sorghum, the main food source for households in AAA, NBeG, and WBeG. The EMMA was conducted between February 24th and March 4th.

EMMA Methodology

After undertaking the RAM in January 2014, Mercy Corps sought to employ the EMMA methodology as the best way to further understand the markets in AAA, NBeG & WBeG better and design a sound market-based intervention for improving food security and livelihoods. Mercy Corps (INGO), SPEDP (NNGO) and GOAL (INGO) partnered to conduct the assessment jointly and in close consultation with the national Food Security and Livelihoods (FSL) cluster.

The EMMA used both secondary data from previous reports and primary data obtained from field data collection in three locations: Agok (AAA), Aweil (NBeG), and Wau (WBeG) markets. Each location was covered by four EMMA team members for three days. In total, 97 interviews (individual semi-structured interviews and focus group discussions) were conducted covering traders, transporters, importers, consumers, Traders' Unions, and producers/farmers as summarized in the table below. Secondary data was sought through desk research from recent publications and situation reports from WFP, FAO, IOM and UN OCHA.

Table 1: Number of interviews conducted per location

Interview	AAA	NBeG	WBeG	Total
Household income and expenditure	13	15	8	36
Individual Farmers	8	8	4	20
Wholesalers	0	3	3	6
Retailers	5	5	5	15
Traders' Union (FGD)	1	1	1	3
Transporters	3	1	2	5
Household FGD (MEN)	2	1	1	4
Household FGD (WOMEN)	2	1	1	4
Farmers' FGD	2	1	1	4
TOTAL	36	36	26	97

⁶ Please note that traders and retailers are used interchangeably throughout this EMMA report.

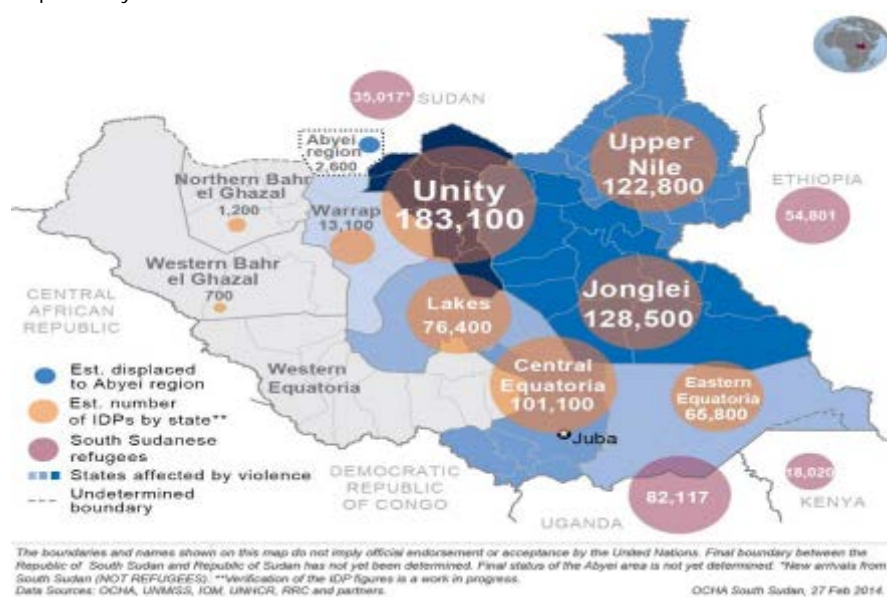
The EMMA team was comprised of 12 team members from Mercy Corps, GOAL and SPEDP. Participants underwent training for three days from February 24th – 27th, 2014. Thereafter, three geographical teams were formed, each with a team leader. The overall EMMA coordinator served as team leader in one of the geographical teams. Primary data collection employed a variety of techniques including: individual interviews, focus group discussions, key informant interviews and market observation over three days. Following the steps as outlined in the EMMA toolkit, the team came together for two additional days of data analysis and review of the response options after data collection.

Limitations

- Farmers interviewed did not track the amount of sorghum harvested/planted during the 2013 season and had not yet bagged all harvested sorghum, making estimates of total production for the catchment area difficult to estimate.
- In anticipation of support, some traders and households seemed to either hide or manipulate information that was important to the EMMA study.
- The amount of time available for data collection was quite short compared to the size of the team and the geographical coverage. Because agencies were extremely busy with emergency response, they were unable to provide staff for a longer period.

Target Population

The target population is the most vulnerable households in three locations: AAA, NBeG, and WBeG. Populations in all three areas consist of hosts, returnees, and IDPs. The map⁷ below indicates the number of IDPs who moved to each of these locations following the December 2013 conflict. The average household size among households in these locations is estimated at seven individuals. This EMMA was developed to analyze the market dynamics and its impact amongst populations that were directly or indirectly affected by the recent crisis. The map below indicates the number of people displaced by state.



As indicated on the map, AAA has received a higher number of IDPs compared to the other two locations. In addition to recent IDPs, these areas experienced an influx of returnees from Sudan and neighboring countries in recent years; NBeG having the highest number of returnees in South Sudan, according to IOM reports. Table 2 summarizes the population breakdown across the three locations.

⁷ UN OCHA situation report, February 27th 2014

Table 2: Disaggregation of the population and essential characteristics

Location	Host Population	Returnees (from neighboring countries) By Nov 2013	IDPs (from current crisis)	Essential characteristic
AAA	81,000 ⁸	5,100 ⁹	2,600	Typically agro-pastoral relying on food from their gardens at harvest time with food aid playing a major role in this area.
WBeG	385,585 ¹⁰	126,394	700	This is an agro-pastoral population that relies mainly on own harvest at harvest time but the market plays a major role to ensure robust food basket among households.
NBeG	833,659	448,332	1,200	Same as WBeG.

The geographic area covered by this EMMA is located in a flood plain characterized by continuous leaching and loss of soil nutrients which leads to reduced crop yields, poor crop performance, annual flooding and livestock diseases. The flooding some years is worse than others; however, the entire region still relies heavily on agriculture for survival. Apart from farming (staple crops and livestock), households' main sources of income include petty trade, sale of natural resources, locally brewed alcohol and a few cases of salaried employees. According to a Food Security Monitoring Systems Report (round 10) from June 2013, the biggest part of household expenditure goes to food (57%) with cereals being at least 32%¹¹ of the food expenditure.

Critical Market System

During EMMA, selecting the critical market is a crucial step. The team considered agencies' experience and FSL cluster priorities when determining the critical market for this EMMA. The final decision was arrived at during the training (Day 2) involving all participants. The key selection criteria that EMMA participants agreed upon were:

- a) A market necessary for survival
- b) Impact of the crisis on the market
- c) Organizational experience and ability

According to South Sudan's annual Needs and Livelihoods Assessment in 2013, the staple food, sorghum, is consumed by the majority of the population in the targeted areas at least six times a week. NBeG and WBeG do not produce sufficient sorghum to cover the need in those areas in a normal year. In NBeG, nearly half the population (49%)¹² relied on the market as the major source of food. Any shocks to the market can have a major effect on the market and, therefore, food security. The expected effect of the December 2013 conflict on the sorghum market was another motivation for the selection of **sorghum** as the critical survival market for this EMMA.

Key Analytical Questions and Timing

Following the selection of sorghum as the critical market, the team determined the key analytical questions for the market. These included:

⁸ WFP food distribution report for host and IDPs in Abyei, unpublished list for food distribution in Abyei. The initial IDPs are estimated to be 35,000 individuals

⁹ Humanitarian update by IOM through UN OCHA on Abyei returnees during referendum, unpublished in October 2013.

¹⁰ The population figures for NBeG and WBeG are based on the number provided in the Crop and Food security assessment mission report 2014. <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp263188.pdf>

¹¹ Food Security Monitoring Systems by WFP VAM, round 10, June 2013; http://foodsecuritycluster.net/sites/default/files/FSMS%20Report_JUNE%202013.pdf

¹² The report does not provide separate disaggregation of data for Abyei.

- a) Can local sorghum production sustain demand in the targeted areas?
- b) Is the market integrated sufficiently in each location to adjust to market shocks enough to meet demand?
- c) What factors affect the availability of sorghum in the market?

The assessment included one harvest for the baseline year September 2012 – August 2013 and emergency period September 2013 – August 2014. Although the baseline period is not what we would define as a “normal” year in South Sudan due to the complex context, there were fewer challenges to production and market flows of sorghum as compared to the emergency period. Furthermore, outside the conflict being studied, flooding during the emergency period defined the harvest outlook greatly within AAA and NBeG and, to a lesser extent, WBeG. The seasonal calendar in Table 3 highlights critical periods and activities for the locations being assessed.

Table 3: The unimodal Seasonal calendar factors

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Agriculture / Horticulture												
Plant sorghum and other Staples												
Harvest Staples												
Plant vegetables												
Harvest vegetables												
Food (In)security												
Hunger Gap												
Food prices higher than average												
Food prices lower than average												
Environmental factors												
Rainy Season												
Dry Season												
Flooding risk												
Reduced access (markets)												

Gap Analysis

Gap analysis forms one of the three important strands of EMMA together with market and response analyses. Gap analysis helps to combine all available avenues of food from own production, income and food aid and compares it to households' demand for the commodity – sorghum in this case. Data collection for the gap analysis was obtained from focus group discussions in AAA and NBeG, as well as individual household interviews on income and expenditures. A typical household consumes one *malwa* (3.25kg) of sorghum per day in AAA and NBeG, while in WBeG a typical household consumes one and half *malwas* per day (4.875Kgs). The gap was calculated as *seven months*, which is the period between producing the EMMA results and the next sorghum harvest (Mar – Sept 2014).

The EMMA team estimated the amount of sorghum available to households during this period from three main sources – own production, purchased from the market, and food aid distributions. At the time of data collection, not all sorghum produced had been sacked for easy measurement; therefore, sorghum stock from own production had to be estimated by producers for the purposes of the EMMA. In NBeG, most households' 2013 season harvest had already been exhausted and people were resorting to purchasing sorghum from markets by March 2013. However in AAA and WBeG, farmers interviewed indicated there was still sorghum being stored at home, which EMMA team also observed.

Household income was obtained using primary data from household interviews. According to the Food Security Monitoring System Report for June 2013, households spent the greatest percentage of income on food expenditures (57%), 32% of which is spent on cereals. Sorghum being the main cereal people consume, this means 32% of the total food budget is spent on sorghum.

To calculate the amount of sorghum that can be purchased with the available income, sorghum prices were collected from traders in the market, as well as from households' individual interviews. Similarly, the EMMA team contacted WFP field offices to obtain monthly food distribution statistics across their different modalities – food aid distributions, Food for Asset programs, and Food for Education programs – for the three areas, including what is planned for the next seven months.

Limitations

- It was hard for the assessment team to obtain accurate income data from households interviewed in part due to lack of trust and a misconception that the information provided would lead to humanitarian aid, despite assurances disputing this.
- The estimated average sorghum for consumption during the seven month period is a forecast and not absolute.
- The amount of sorghum needed was calculated based on the assumption that each household would eat sorghum as the main food source. If households switch to sorghum alternatives as sorghum becomes inaccessible, it would reduce the demand for sorghum, which was not taken into account when calculating the "need". .

Table 4: Sorghum gap analysis during emergency period

Location	Household population ¹³	Sorghum need per month (MT)	Sorghum need for population for seven months (MT) (A)	Own sorghum stock from harvest for seven months (MT) (B)	Income ¹⁴ contribution for seven months (SSP) (C)	Food aid ¹⁵ for seven months (MT) ¹⁶ (D)	Gap (A-(B+C+D))
AAA	9,132	890	6,232.5	445	997	5,287.9	+497.7
NBG	229,175	22,345	156,412	22,345	34,295	6,547.6	-93,224.4
WBG	88,932	10,839	75,870	8,671	12,589	2,813.4	-51,757.6
Sub total	327,239	34,074	238,514.5	31,461	47,881	14,648.9	-144,484.3

Market-system Maps

Sorghum Market System in the Baseline Year

Information obtained from various interviews and key informants provides a snapshot of the sorghum market map during the baseline year from September 2012 – August 2013 which is summarized in Figure 1. Although there is some variation within the market for Agok (AAA), generally, similar actors and factors influenced the sorghum market system.

The map is separated into three layers which include: a) the environment, which is comprised of norms, policies, and weather in which the market functions; (b) the market chain, which is comprised of all the market actors directly in the chain from producers to consumers; (c) the inputs and support services, which is comprised of the infrastructure, inputs and services that are required for the market chain to function efficiently.

The figure below shows the interaction between the different environmental factors, market chain actors and support inputs and services within the sorghum market chain.

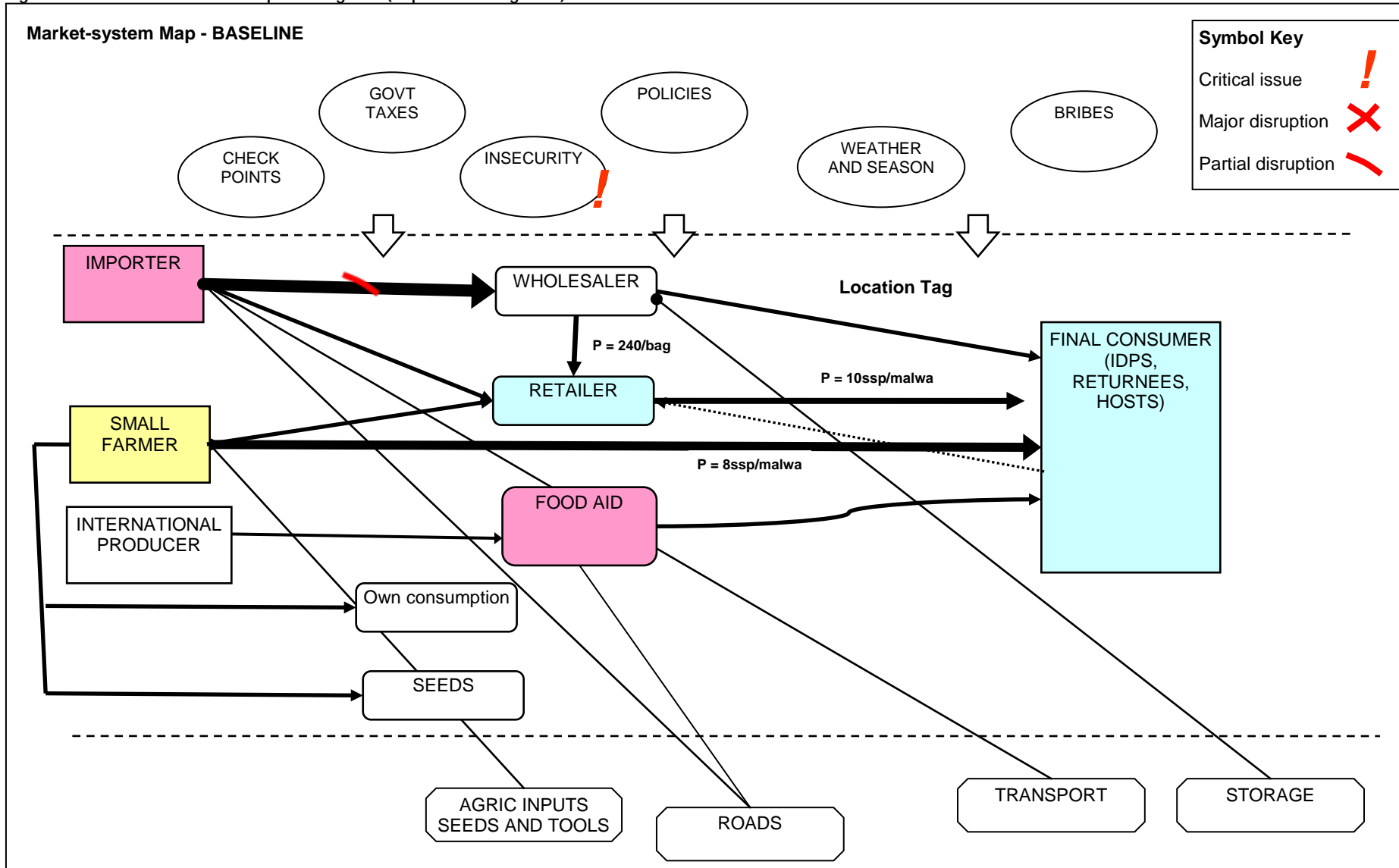
¹³ The household population figures are based on the number provided in the Crop and Food security assessment mission report 2014. <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp263188.pdf>

¹⁴ FSMS report June 2013 indicated that 32% of household income is used on purchase of cereals. This percentage was used in the calculation. http://foodsecuritycluster.net/sites/default/files/FSMS%20Report_JUNE%202013.pdf

¹⁵ Food aid is only based on WFP distribution. In AAA, sorghum obtained from monthly GFD. In NBG, different WFP programs including food planned for FFA, FFE and Abyei displaced population estimates from WFP were used while in WBG, the food for FFA, FFE, and IDPs from recent crisis and food insecure hosts was estimated.

¹⁶ This is the WFP expected pipeline within the period.

Figure 1: The Baseline Market Map for Sorghum (Sept 2012 – Aug 2013)



Description – Sorghum Actors in Baseline Year (Sept 2012 – August 2013)

a) Small farmers

There are no large scale farmers in AAA, NBeG and WBeG; mainly small scale farmers produce sorghum at subsistence levels selling small amounts in the market or directly to households within their neighborhoods when cash is needed. In a few cases, some of these farmers organize themselves in groups (farming associations) to open up a sizeable piece of land and sell as a group to retailers within their geographical coverage. The above scenario has been uniformly observed across all three locations. In AAA however, an exceptional trend has been observed where both traders and individual farmers were found to sell sorghum to traders from Warrap and NBeG; frequency and volumes depended on size of trader/farmer.

b) Importers

This is mainly illegal trade through Sudanese middlemen that smuggle sorghum into South Sudan. Because goods are being brought in illegally across the border, Sudanese trucks must use back roads in Sudan to avoid detection. This increases the risk and cost to both traders and transporters, who also play a major role in ensuring sorghum reaches its final destination. Similarly, due to the border closure, only Sudanese traders are able to bring sorghum from Sudan to South Sudan, allowing these trader significant control over the pricing and supply of sorghum in NBeG and WBeG. Though traders easily shifted to sourcing goods from Uganda rather than Sudan after the border closure, very little sorghum, if any, is imported from Uganda. There are both formal and informal (illegal) checkpoints charging fees to traders transporting goods within South Sudan, as well as from Uganda and Sudan, increasing costs significantly. Unlike WBeG and NBeG, this does not seem to have a major influence on the sorghum market in AAA; this will be explored subsequent sections.

c) International Markets

This is sorghum that is imported from overseas mainly by donors of food aid, such as WFP. This plays a major role in the sorghum market chain as explained further in sub section (f) of this analysis. The aid is uniform across all locations, but the amounts vary by location.

d) Wholesalers

These are large scale businessmen with substantial capacity to buy and sell in bulk and they play a pivotal role within the entire market system. Importers in most cases deal with wholesalers who then sell mostly to retailers in small quantities. Individuals, who can afford a larger purchase, may also purchase from wholesalers to save money by purchasing in bulk, but this is the exception. The trend observed with importers is only true in NBeG and WBeG, as neither importers nor wholesalers were found in AAA. Retailers in AAA said that there has not been any sorghum from Sudan on the market since the border closure in 2012.

e) Retailers

These are common players within the sorghum market in all locations. They obtain their sorghum from two sources – wholesalers and small farmers. From individuals and farmers, they purchase sorghum in smaller amounts, which may be either sacks/bags or individual *malwas*, and sell to consumers in similar units. Occasionally, retailers obtain some sorghum from importers but this link is quite weak within the overall system.

Some retailers purchase sorghum illegally from food aid recipients and resell it making a profit. The latter case is not very strong in NBeG and WBeG but plays a significant role in defining the sorghum market and trends in AAA. Similar to wholesalers, retailers have to pay daily markets dues to local authorities.

f) Food aid

This is mainly food from WFP which either comes as direct distribution, as observed in AAA across all households, or through Food for Assets or Food for Education programs. WFP distributes food aid monthly to registered households either directly or through cooperating partners. The ration for beneficiaries under general food distribution is 500g of cereal (sorghum) per person per day. This translates to 15kgs per person a month. In AAA, food aid plays a major role in shaping the sorghum market outlook. For instance, the price per *malwa* has varied consistently around 7SSP in AAA during the

baseline year. During the same time period, sorghum in NBeG paid 18 SSP per *malwa* at the peak of the hunger gap in the baseline period.

g) Consumers

Apart from food aid, consumers mainly obtain sorghum from two main sources: their own production and purchasing from the market. In NBeG and WBeG, 49% of the population obtain sorghum from the market while 38% obtain it from own production. In NBeG, households spend 77%¹⁷ of their income on food¹⁸ while 38% is spent in WBeG. In AAA, the displaced population receives a monthly family ration from WFP. However, per the seasonal calendar, some households stated that few consumers who obtain sorghum from their own production have sorghum stores that will usually last until the end of February. Heavy reliance on the market only intensifies towards the end of April. In NBeG and WBeG, average prices in a baseline year are around 7 SSP per *malwa* when purchasing directly from farmers and around 10 SSP per *malwa* when purchasing in the market.

Constraints during the Baseline Year (Sept 2012 – Aug 2013)

I. Poor Infrastructure

The sorghum market is affected by poor roads linking all these locations to major markets, many of which become impassable during the rainy season. Unfortunately, the rainy season coincides with the peak hunger gap (refer to seasonal calendar) when there is increased reliance on the market, resulting in increased prices for the available sorghum stock on the market.

II. Intermittent Conflicts

The entire country was recovering from tensions resulting from fighting between South Sudan and Sudan over oil in Heglig when NBeG, especially Aweil East and North, then experienced a series of conflicts; mainly intertribal and cattle raids. Meanwhile across AAA and WBeG inter-tribal conflicts due to cattle raiding are common, resulting in displacement of people who would otherwise engage in meaningful sorghum production.

III. Sudan Border Closure

The border with Sudan closed in 2012 disrupting what used to be a major supply route for cereal (sorghum) and other trade goods. This has particularly constrained supply to the EMMA assessment locations. Although the resulting trade gap has been filled by food commodities and other goods from Uganda (mainly), long distances, extremely expensive fuel, unfavorable exchange rates, and official and unofficial fees keep market prices high. In addition, sorghum is not being imported from Uganda. While there were hopes that the governments of Sudan and South Sudan would reach an agreement to reopen the border, no progress has yet been achieved. Should the border open, it would enable a supply of sorghum at more favorable prices for South Sudanese households, especially those in states along the border.

IV. Influx of Returnees and IDPs

Due to their geographical location, EMMA study areas have received some of the highest number of returnees from Sudan. In 2012 alone, NBeG received a total of 13,408 individuals while WBeG received 10,998¹⁹ individuals. Returnees arrive without food or sources of income. Because returnees do not have land and/or inputs for cultivating upon their return, host communities have had to share their sorghum sources.

In 2011, an armed conflict in Abyei forced many people from their homes into the Agok area, more than doubling the population in Agok at that time. They were forced to leave their land and harvests behind, resulting in a reliance on food aid and the market for sorghum. The influx of returnees and IDPs increased sorghum demand in the EMMA areas, while, at the same time, the sorghum supply in these areas was reduced due to factors mentioned above.

¹⁷ Annual Needs and Livelihoods Assessment for South Sudan, February 2013.

¹⁸ This doesn't mean sorghum, FSMS report for October 2013 indicated only 23% is spent on sorghum.

¹⁹ IOM tracking and verified returnees: A report by IOM circulated by UN OCHA to all humanitarian actors on 2nd December 2013.

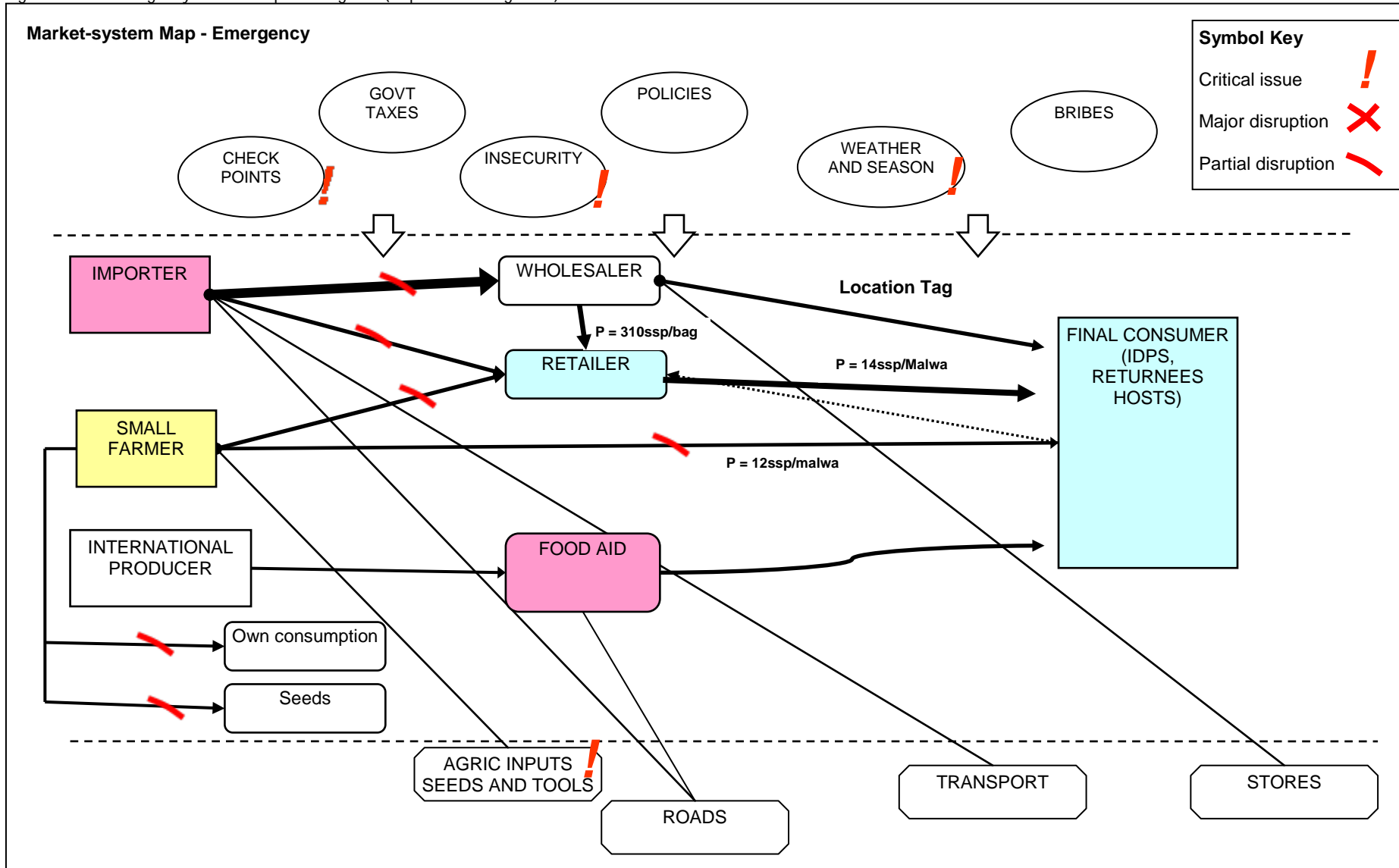
Sorghum Market System in the Emergency Period

The baseline year cannot be regarded as a perfect year for the sorghum market because the border closure and influx of IDPs and returnees had a major impact on consumption trends. Whereas, the emergency year (Sept 2013 – Aug 2014) has been affected, not only by the conflict, which started in December 2013, but also by severe flooding in August 2013. Many people interviewed agreed that the flooding had a more significant impact on the sorghum market than the conflict.

Although it is evident the amount of sorghum available in the market is reduced -- especially in NBeG and WBeG -- and prices have increased, other commodities in the town are readily available however at a slightly higher prices compared to the normal period: maize, flour, sugar, and wheat.

The general outlook of the sorghum market map after the crisis is shown in the figure below.

Figure 2: The Emergency Market Map for Sorghum (Sept 2013 – Aug 2014)



Description – Sorghum Actors in Emergency Period (Sept 2013 – Aug 2014)

a) Small farmers

Small scale farmers are still the main actors in the sorghum market in NBeG, WBeG and AAA. However, their overall contribution to retailers has been greatly weakened during the emergency year.



Focus group discussions with farmers' groups and individual farmers indicated that much of the sorghum planted last season was destroyed by flooding; exact numbers were unavailable. This has impacted the amount of sorghum contributed by these farmers to the marketplace. The price at which farmers sell their sorghum in the market has increased during the emergency year.

The major contributing factor is a poor 2013 harvest due to flooding. Farmers sell to retailers in small amounts only when cash is needed, as they are mainly subsistence farmers. In WBeG, middlemen collect small amounts of sorghum from farmers and then sell

larger amounts to retailers. However, since the emergency, they are having a difficult time collecting sufficient sorghum, as farmers are retaining it for their own consumption due to the expected shortage and increased prices.

b) Importers

The illegal trade route from Sudan is becoming more difficult to navigate. Traders and transporters interviewed all concurred that due to the high risk associated with trading along this route, transport costs have more than doubled. Because Sudanese importers currently have a near monopoly on the sorghum market, they are the determining factor for pricing of the market during the emergency year. Furthermore, since the December conflict, the number of check points has increased on the South Sudan side, as well as the amount of money demanded at each. One transporter indicated that he previously paid 30 SSP at one of the checkpoints in Aweil (NBeG), but he now has to pay 80 SSP. Due to random, informal checkpoints, the total number of checkpoints is in dispute. Estimates on the number of checkpoints by transporters in AAA ranged from six to 42. All these factors have resulted in increased sorghum prices from importers.

In Wau (WBeG), on average, for every 20 trucks that arrive in the market with commodities, only two trucks come in with sorghum. Traders there further alluded that sorghum has become too expensive for both traders and consumers to deal in and consume. However, this is mainly felt in NBeG and WBeG while in AAA where importers rarely come with sorghum, this is not yet an issue. Traders in NBeG and WBeG reported they are able to increase their supply, but demand has decreased dramatically due to higher prices and decreased incomes. Some salaries have not been paid since the December crisis. Increased prices and decreased incomes have resulted in some households purchasing sorghum substitutes rather than sorghum.

c) International Markets

Internationally imported sorghum earmarked through food aid for NBeG and WBeG is only for new returnees and IDPs or FFA program beneficiaries. Households with able-bodied individuals who can work are given a ratio of 0.3 Kgs per person per day for 20 days depending on the activity and work.

d) Wholesalers

Wholesalers are still an integral part of the sorghum market in the emergency year in NBeG and WBeG. However, due to limited supplies from farmers, wholesalers are forced to rely on illegal imports from Sudan by traders who have a near

monopoly on pricing. In addition, because of the increased risk of bringing sorghum across the closed border, lead time for restocking sorghum has increased from three to seven days. Furthermore, the price at which they receive the sorghum from importers has increased due to increases in checkpoints and informal fees since the December crisis. Ultimately, a 100Kg bag that used to be sold at 220 SSP has now reached 310 SSP.

The Traders' Union in Aweil (NBeG) indicated that the major challenge is a reduced 2013 harvest, which severely limited local sorghum supplies. The same traders pointed out that, during the baseline year, in Aweil at least 162 wholesalers were registered by the Traders' Union and purchasing in bulk. Although they were not sure how many currently exist, all traders agreed that the number of wholesalers has decreased in the emergency year. Although other commodities (sugar, maize flour) are readily coming in from Ugandan traders, there is no sorghum coming in from Uganda.

e) Retailers/Traders

Retailers continue to occupy a critical position in the sorghum market in NBeG, WBeG and AAA. Previously, they purchased sorghum both from farmers and wholesalers; however, in the emergency period they are only able to purchase from wholesalers due to reduced farmers' harvests. As discussed above, the price has increased for retailers and wholesalers compared to the baseline year. In NBeG and WBeG, retailers are selling their sorghum in small *malwa* tins (3.25Kgs) to consumers at an average 14 SSP in the emergency year as compared to 10 SSP in the baseline year. In AAA, host community retailers reported that new retailers arrived when the conflict forced IDPs into the area. The new retailers increased competition in the market for both sorghum and spacing, resulting in longer lead times and higher rent. Lead times increased from less than one day to fill a 15-*malwa* sack to more than two days, which will continue to get worse during the high season (rainy season) as availability of sorghum continues to decrease. Rent increased from 300 SSP per month in Anet Market (Agok, AAA) to 400 SSP in the emergency year.



According to the seasonal calendar the peak of the hunger gap is normally mid-rainy season where prices increase by approximately 3-5 SSP per *malwa* from the normal trading period. Traders in NBeG and WBeG indicated that they are not sure how much sorghum will cost at the peak of the hunger gap but were sure it will be more expensive than any year they have been in business. It can be observed from the photo insert that a considerable number of sorghum bags found in the market were either from WFP recipients or used the bags from WFP food rations. Either way, it signifies the critical role food aid plays in the markets as explained below.

f) Food aid

The amount of food distributed by WFP in AAA during the emergency year remains the same as in the baseline year for Abyei displaced households. Since the most recent conflict, WFP has plans to distribute sorghum to currently displaced households from Unity state residing in AAA. In NBeG and WBeG, the amount of sorghum is only through FFA and school feeding to selected schools. Therefore, unlike in AAA where every household is assured of supply of sorghum, unless you have been selected and included in such programs, households in NBeG and WBeG do not have an assured supply of sorghum.

g) Consumers

Other than food aid, consumers still mainly obtain sorghum from two main sources: their own production and purchasing from the market. Although secondary data was not readily available for the amount of sorghum that households expect to obtain

from their own harvest, across four focus group discussions, households indicated they have already started relying solely on sorghum purchased in the market rather than relying on their own production in NBeG and WBeG or on sorghum substitutes. In AAA, households are purchasing from the market now while prices are lower, but will resort to own production consumption again in May when prices are much higher.

Farmers interviewed echoed this sentiment; they admitted reduced harvest from their own fields compared to previous year because of the flooding in August 2013. With the exception of AAA, consumer prices for sorghum have reached an average of 14 SSP (a 20% price increase) in NBeG and WBeG while in AAA a *malwa* costs an average of 10 SSP, which increased from 7 SSP during the baseline year. With the peak of the hunger gap still three months away, current prices indicate that sorghum prices during the hunger gap are likely to be higher than normal. Household income, on the other hand, has not changed (petty trade, sale of grass and poles, and alcohol) or has decreased, as in the cases where people have not received salaries since the conflict.

In NBeG and WBeG, the sorghum on the market mainly comes from Sudan, at a much higher price than local sorghum because of the risk of bringing it into South Sudan. At the same time, Sudanese sorghum has a monopoly on the market because local sorghum production was greatly reduced by severe flooding. Household incomes in these areas have decreased from 640 SSP per month to 420 SSP in the emergency year, while in AAA they've reduced from 310 SSP to 240 SSP. As a result of lower incomes and higher sorghum prices, many households interviewed in NBeG and WBeG have already resorted to purchasing sorghum substitutes, such as maize.

Constraints during the Emergency Period (Sept 2013 – Aug 2014)

The emergency map provides an insight into the actors in the sorghum market and how the relationship between different actors has evolved during the emergency year. Both the environment and the supporting services within the market play a critical role in defining the overall sorghum available for consumers. The key effects on these services have been:

1) Limited supply from importers

Since the border between Sudan and South Sudan closed, the flow of sorghum within markets in Aweil and Wau has been greatly affected. Because trade along this route is now considered illegal, only traders willing to take on the increased risk will transport goods across the border. Despite the challenges, importers insist they are able to bring more sorghum into South Sudan if there was an increase in the demand for Sudanese sorghum; demand has decreased due to reduced income and higher prices for Sudanese sorghum.

Uganda is an alternative source of goods for South Sudanese markets; however, Uganda does not produce sufficient sorghum to meet the gap in South Sudan. Uganda is an excellent source of sorghum substitutes like wheat flour and maize, both of which are readily available on the market. However, prices for both substitutes have also increased because of the increase in informal checkpoints and fees since the December 2013 conflict.

2) Limited supply/harvest by farmers

Smallholder farmers and groups habitually contribute a significant amount of sorghum to the market. However, due to flooding, farmers' sorghum crops have been significantly reduced in some areas. Although, in most cases these are subsistence farmers who eat their own production and sell only a small amount of surplus when necessary, the poor harvest created a market shock for both farmers and traders. Some traders interviewed complained that sorghum from local farmers in a normal year is cheaper and easier to obtain; however, with the limited harvest this year the supply on the market will be constrained and more expensive.

Farmers who used to be self-reliant have since started depending on the market for sorghum. This impact goes beyond farmers' inability to supply sorghum to retailers to a reduction in household income. In addition, a shortage of sorghum seed is likely for the May 2014 planting season. Furthermore, this created a shift in the seasonal calendar with regards to the expected start time of high season, moving the start of the season from May to March/April.

3) Increased transaction costs

The cost of doing business has increased significantly. Since the December 2013 conflict, the exchange rate between South Sudanese Pounds and US Dollars has been fluctuating significantly; therefore, traders bringing sorghum from Sudan want to



be paid in dollars rather than pounds, meaning people are paying more for the sorghum than before (based on exchange rates). Furthermore, due to the risk associated with illegal trade between Sudan and South Sudan, truck owners and drivers charge high fees for bringing sorghum across the border.

In addition, within South Sudan, new informal fees have been introduced along checkpoints to move sorghum and other goods. Hence, the costs incurred by a trader in moving sorghum to the final destination have greatly increased. All costs are transferred into the final retail price paid by a consumer. As discussed, the price of a *malwa* has increased by 20% from 12 SSP to 14 SSP. Traders in WBeG indicated

that consumers find it very expensive buying sorghum and have resorted to alternatives, mainly maize flour. Similarly, households in NBeG pointed out that it is cheaper currently buying maize flour than sorghum.

While all of this is creating a strain on the market this season, if farmers are able to find sufficient sorghum seed to plant and harvest a normal crop during the 2014 season, the sorghum supply will be greatly improved and household demand will be reduced to only that time of the year when harvests have been exhausted. This will reduce the gap as observed in the gap analysis section hence a better sorghum market outlook as a result of improved farming practices on yield.

4) Increased pressure on the market

Related to point 2 above, farmers who generally rely on their own harvest have had to resort to the market as a source of sorghum early, hence increasing demand for sorghum in an already stretched market. Likewise, there has been an increase in the population in all areas due to an influx of returnees in 2013, as well as IDPs following the crisis of December 2013; adding demand to a year in which there was already a decreased supply.

Main Recommendations and Conclusions

From the market analysis, the sorghum market is both affected by supply and demand problems though the supply side is more severe than the demand side. Markets in NBeG and WBeG are more integrated than the market in AAA, despite the bottlenecks. The overall quantity of sorghum available on the market has been significantly reduced between the baseline and emergency years. Importers from Sudan admit to being able to increase supply if there were more demand, although at a higher price than local sorghum would be available. Because of a reduction in income for households in NBeG and WBeG, the demand for the more expensive sorghum is not high enough for importers to increase supply at this time. Households are forced to substitute maize or wheat flour for sorghum instead, which are widely available on the market, through imports from Uganda. The section below, therefore, explores the response options for the sorghum market, including the consideration of sorghum substitutes.

Response Logic

The response logic proposed below analyzes sorghum supply and demand, market integration, availability of sorghum substitutes and consumer purchasing power. Since sorghum is a staple crop, this provides an insight into the reality of the food security outlook in the assessment areas. The ability of people to purchase sorghum during the 2014 season will be reduced. The lack of local supply increases the reliance on imported sorghum from Sudan which is more expensive on the market. The higher cost, combined with reduced household income, has reduced the households' ability to purchase sorghum in the market in NBeG and WBeG. Should purchasing power increase for this more expensive sorghum during this season, the supply can also be increased, though less quickly than previous years. While the total amount of sorghum on the market is reduced, both sorghum from Sudan and sorghum substitutes are available in the market.

The situation in AAA is slightly different in that the local sorghum available is reduced from the previous season, but still higher than that available in the other two areas. Food aid plays a major role in AAA as well. With food aid available to every household in the region each month, the ability to access sorghum is more stable than in the other two areas, despite the fact that the market is less integrated in AAA. Households in AAA have sorghum saved from the 2013 harvest and are receiving food aid each month. Normally, households will sell a few *malwas* of sorghum for cash when they need to purchase other critical household needs. Having an alternate source of income would prevent the need to sell the stored sorghum.

Clearly, the sorghum market system was affected in 2013, first by flooding and then by increased costs and population due to the December conflict. The current balance in the market is delicate and must be closely monitored through the 2014 harvest season (Sept – Oct). One advantage is that sorghum substitutes are vibrant in the market despite reduced purchasing power. Assuming households in NBeG and WBeG will substitute maize and wheat flour for sorghum (which has already started); cash-based programing to increase household purchasing power can assist households in accessing sorghum substitutes and other basic needs. The response options are summarized in the section below:

Response Options

Activity	<i>Food for asset/work to beneficiaries as they engage in community work in exchange for sorghum in NBeG and WBeG and food aid distributions to vulnerable, labor-poor households.</i>
Advantages	<p>Reduces excess demand on the market.</p> <p>Projects could include disaster risk reduction for flooding and help provide alternate income (in the form of food) for people who are not currently receiving salaries.</p> <p>Does not rely on local supply of sorghum.</p>
Disadvantages/Risks	<p>Removes local traders completely from the equation.</p> <p>Households may sell sorghum cheaply in markets to get cash to purchase other critical basic needs.</p> <p>Does not focus on labor-poor households which are very often the most vulnerable households.</p> <p>Households begin preparing land for the sorghum planting season in April. If not planned properly, this may interfere with other productive household activities, such as land preparation, planting, etc.</p> <p>Poor infrastructure (roads) makes transporting goods during the rainy season extremely difficult, if not impossible. Often, it is necessary to provide a double ration (two months' worth) in June before the worst of the rainy season.</p> <p>New checkpoints charging informal fees on the roads since the December 2013 conflict make transporting goods very expensive. Although the Minister of the Interior has released a letter stating that no humanitarian aid should be taxed.</p>
Feasibility	Medium

<i>Time frame</i>	2-8 weeks, depending on pipeline
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<i>Activity</i>	<i>Cash transfers or cash for work to vulnerable households in all areas to meet critical basic needs beyond sorghum, as well as sorghum substitutes.</i>
<i>Advantage</i>	<p>In NBeG and WBeG, this will replace lost income allowing households to purchase critical household needs, sorghum substitutes, or even Sudanese sorghum available in the market this season.</p> <p>In AAA, this option would provide households with an alternative source of income to eliminate the need to sell stored sorghum or food aid for cash to purchase other basic needs.</p> <p>Does not exclude traders from the system which is important for a sustainable market.</p>
<i>Disadvantage/Risk</i>	<p>Can create inflation and harm sorghum market if used excessively or if there is a major market shock.</p> <p>Markets, sorghum particularly, must be monitored very closely to ensure the program is not creating inflation or shortages on the market.</p> <p>Requires a strong contingency plan in the event the market is negatively affected.</p>
<i>Feasibility</i>	High
<i>Time frame</i>	Within 2-3 weeks

<i>Activity</i>	<i>Commodity vouchers to vulnerable households for sorghum substitutes.</i>
<i>Advantage</i>	<p>Encourages trade and does not harm sorghum market.</p> <p>Substitutes are widely available in markets and are less expensive than sorghum at this time.</p> <p>Allows agencies to absorb fluctuating prices, rather than households.</p>
<i>Disadvantage/Risk</i>	<p>People prefer sorghum to either maize or wheat flour.</p> <p>Vouchers or commodities can be misused (sold) if households need cash.</p> <p>Can create inflation if there is any shock in the substitute markets.</p>
<i>Feasibility</i>	High
<i>Time frame</i>	Within 3-5 weeks

<i>Activity</i>	<i>Provision of sorghum seed and tools to farmers to ensure the</i>
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	<i>production season for 2014 is improved. Tools need to be delivered to households by early April, while seeds are required by the beginning of May.</i>
<i>Advantage</i>	<p>Ensures sorghum in the subsequent season (other factors constant) will be readily available from local farmers.</p> <p>Creates a self-sustaining community less dependent on imported sorghum or food aid by restoring purchasing power and the local market chain.</p> <p>Agencies have experience providing this kind of assistance after the 2011 Abyei crisis.</p>
<i>Disadvantage/Risk</i>	<p>The returns (harvest) will not be realized until after the hunger gap.</p> <p>Farmers will have no control over other factors (like new flooding or drought).</p>
<i>Feasibility</i>	High
<i>Time frame</i>	Within 2 months

<i>Activity</i>	<i>Increase traders' access to credit to stock bulk food items prior to the rainy season in 2014.</i>
<i>Advantage</i>	<p>Empowers traders and helps provide access to previously non-existent credit.</p> <p>Ensures sufficient, or at least increased, supply of goods during the peak of the rainy season when roads become impassable.</p>
<i>Disadvantage/Risk</i>	<p>Hard to implement in locations with large populations like Aweil (NBeG) and Wau (WBeG).</p> <p>Feeds into illegal checkpoint fees being paid by traders to bring goods from other areas.</p>
<i>Feasibility</i>	Low
<i>Time frame</i>	Prior to June 2014

Response Recommendations

Of the response options listed above, three were selected as programmatic recommendations:

- 1) *Food for asset/work to beneficiaries as they engage in community work in exchange for sorghum in NBeG and WBeG and food aid distributions to vulnerable, labor-poor households.*
- 2) *Cash transfers or cash for work to vulnerable households in all areas.*
- 3) *Provision of sorghum seed and tools to farmers to ensure the production season for 2014 is improved.*

Targeted Food for Work/Assets Programs

It is recommended that WFP maintain food supply at the current level in AAA or increase slightly for new IDP households since this is the main source of sorghum for many vulnerable households and plays a pivotal role in the food security outlook of AAA residents. In NBeG and WBeG, there is a need to intensify targeted food-based programs through food-for-assets and/or work programs to increase the amount of sorghum and creating temporary employment for vulnerable households. This will further reduce the demand in the market and balance supply and demand, while maintaining an acceptable level of food security. Projects implemented such as opening more land for staple crops will further boost production during the next harvest. However, this can't be implemented in AAA as GFD provides sufficient sorghum required within households.

Food distributions will only be possible for the next four months until the peak of the rainy season, July and August. One possible coping strategy would be to provide a double distribution of food in June while roads are still passable.

Cash Transfers or Cash for Work

Providing cash to vulnerable households, either through cash transfers or cash for work, will increase households' purchasing power by increasing incomes. Beyond sorghum, many households have lost income either through low sorghum production or lost wages and are unable to meet basic household needs. Cash programming would restore lost income and assist households in accessing critical household needs. Furthermore, the risk of flooding may be reduced through cash for work projects. In AAA, households will not be forced to sell sorghum stored at home or food aid in order to obtain other household goods.

However, because the balance is delicate, these programs will require very careful monitoring of the market for any abnormal price changes alerting agencies of any alarming trends, such as inflation. A smart contingency plan should be in place in case adverse effects are found during cash programming. For instance, providing commodity vouchers for sorghum substitutes (listed in the above options) would be a recommended contingency plan for cash programming. It is also critical to ensure cash for work activities should not interfere with any normal income activities for households, such as preparing and planting land, so agencies should place close attention to this when designing programs. In addition, cash-for-work activities should not overburden laborers who may also be working on their land all day in April and May. Finally, a portion of a cash-for-work budget should be set aside for unconditional cash transfers to labor-poor households.

Provision of Tools and Seeds to Sorghum Farmers

Between the flooding and the sorghum shortage, it is unlikely that most farmers will be able to save enough sorghum for planting in May, as they may sell or consume it as a coping strategy. As a result, farmers in vulnerable households may require assistance obtaining sorghum seeds and tools for planting season. Provision of seeds and tools through in-kind distributions of sorghum or commodity vouchers for tools can boost production and ensure a sufficient harvest in the upcoming season, barring any new shocks. Farmers require tools by the beginning of April and seeds by the beginning of May for the planting season.