COMPREHENSIVE MARKET ASSESSMENT IN TWIC AND AGOK, WARRAP STATE, SOUTH SUDAN

PREPARED FOR

PREPARED BY

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South Sudan’s Research Firm

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<td>Comprehensive Peace Agreement</td>
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<td>EC</td>
<td>European Community</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>Northern Bahr El Ghazal State</td>
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<td>NGO</td>
<td>Nongovernmental Organization</td>
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<td>RSS</td>
<td>Republic of South Sudan</td>
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<td>SPLM/A</td>
<td>Sudan People’s Liberation Movement/Army</td>
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1 EXECUTIVE SUMMARY
GOAL has been operating in South Sudan since 1985 and implements Health, Nutrition, WASH and livelihood programs in five sites, including Twic County, Warrap State and the Abyei Administrative Area. Recently, since the signing of the CPA, GOAL is in the process of transitioning from emergency intervention towards development programming in the region. With funding from the European Community (EC), GOAL aims to increase resilience, food availability and income for crisis-affected populations in Warrap State. This will come to fruition through the creation of Farming Associations, with each association constituting roughly 30 members who are engaged in farming.

This project specifically aims to contribute to increased food and income security of crisis affected populations in Warrap State through increased and diversified agricultural production and improved access to and development of quality markets and diversified income sources. Project activities include the creation of demonstration farms to integrate new technologies into local usage, capacity building of individual farmers, as well as facilitating the formation and development of farmer groups linked with local and regional traders. Beneficiaries include motivated, vulnerable and marginalized individuals and the project will link with non-traditional groups including indigenous traders to strengthen the market systems within the area.

This report examines the current value chains present in Twic County and Agok village by collecting qualitative and quantitative data based on market analysis. Key value chains actors have been polled namely farmers, traders, business owners and consumers. This report seeks to provide a comprehensive overview of the trading environment in which target beneficiaries operate and to identify specific areas where linkages may be improved within the market system.

Both the village of Agok and Twic County are located in the north of Warrap State. Located on the northern border with Sudan, Warrap State has historically relied heavily on imported food goods from Khartoum, though after the border was blocked local residents have turned to agriculture as a means of survival. Despite the prevalence of agriculture in the area, our research found that the regional markets lack local fruits and vegetables. Access to supplies and materials are greatly affected by the long distances to markets and high transportation costs in both locations, as well as the lack of adequate supply of goods to cover demand. Our research indicates a need for increased agricultural production.

Based on the findings of this assessment, the following recommendations can be made:

- Innovate seed supplier chain, paying specific attention to seed distribution techniques.
- Strengthen farmer value chain, paying specific attention to tool distribution and Farmer’s Associations.
- Strengthen Trader value chain, paying specific attention to regional market traders who receive goods from East Africa.
2 INTRODUCTION

2.1 BACKGROUND ON SOUTH SUDAN

On July 9, 2011, South Sudan declared its independence, becoming the world’s 193rd country and Africa’s 54th state. Unlike other postcolonial states, South Sudan’s independence was not granted at the discretion of a non-belligerent colonial power. Instead, decades of armed conflict with Sudan culminated in an internationally brokered peace agreement in 2005 that allowed the option of separation.

The Comprehensive Peace Agreement (CPA) between the Government of (Northern) Sudan and the Sudan People’s Liberation Movement/Army (SPLM/A) ended two decades of civil war in the region and established a shared system of governance between the Government of National Unity (GoNU) in the North and the semi-autonomous Government of Southern Sudan (GoSS). Since that time, GoSS has been responsible for the governance of the region now known as South Sudan. In accordance with the terms of the CPA, GoSS conducted a referendum on self-determination in January 2011, which resulted in an overwhelming turnout of almost all voters choosing secession from Sudan.

In July 2011, the newly independent country secured statehood and immediately dropped to the bottom of the world’s development indicators. Since schools were closed or destroyed throughout much of the population’s childhood, about three-quarters of adults cannot read.1 Only one percent of households have a bank account, half of South Sudanese (50.6%) live beneath the national poverty line of 72.6 SDG per month, and 47.0% are food deprived.2 As a consequence, the vast majority of South Sudanese face numerous challenges in securing sustainable livelihoods to support themselves and their families.

The large influx of refugees and internally displaced people (IDP) further complicates the existing political dynamics in the state. During the course of decades of war, millions of southerners fled north to escape the fighting and conflict, many of whom started returning after 2005. According to the Relief and Rehabilitation Commission, 1,812,300 internally displaced people and refugees returned to South Sudan between 2004 and 2008.3 Many refugees and IDPs face significant challenges reintegrating into their former communities as villages lack basic services to accommodate rapid influxes of returnees. Returning families are now struggling to survive without adequate drinking water, health services, education, food and shelter.

The highest rate of illiteracy is found in Warrap, Jonglei, Lakes, and Eastern Equatoria States, with approximately three-quarters of the population between the ages of 15-24 unable to read and write.4 Overall, among the ten states comprising South Sudan, women are at a higher disadvantage in regards to education, with 72% not able to read and write versus 45% for men.5 In 2009, the pupil to classroom ratio in South Sudan stood at 129, with nearly one third of pupils unable to attend due to a lack of funds to meet school fees. Overall in the country, nearly two thirds of individuals have never attended school.6 The majority of citizens therefore rely upon crop farming as their principle livelihood, often at the subsistence level, leaving themselves vulnerable to shocks and natural disasters.7

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1 Statistical Yearbook of Southern Sudan 2010, Southern Sudan Centre for Census, Statistics and Evaluation. 23.
3 Statistical Yearbook of Southern Sudan 2010, Southern Sudan Centre for Census, Statistics and Evaluation.103.
5 Ibid.
6 Ibid, 60.
7 Ibid.
2.2 BACKGROUND ON WARRAP STATE

One of the ten states of South Sudan, Warrap is part of the greater Bahr el Ghazal region and borders Western Bahr el Ghazal (WBeG), Northern Bahr el Gahzal (NBeG), Unity, Lakes, Western Equatoria, and Southern Kordofan in Sudan. As of 2012, Warrap’s estimated population was 972,928, though the actual number is likely much larger when accounting for returnees. There are six counties, 42 payams, and 129 bomas in Warrap State, covering a total area of 31,027 km²; Warrap is one of the most densely populated states in the country, with a population of 972,928, of which more than 70% are under the age of 30 years. The main ethnic groups represented in Warrap State are the Dinka, Luo and Bongo.

Due to Warrap’s close proximity to Sudan, it was one of the first states affected by the civil war with violent attacks causing massive displacement. Warrap State remains a highly affected area in South Sudan as it is vulnerable to attacks from militias operating in the north and ongoing arrivals of returnees. Between October 2010 and May 2011, nearly 31,000 persons in Warrap were returnees to South Sudan. The influx of returnees and IDPs has also resulted in greater competition over scarce resources and creates conflicts. According to UNDP, other challenges to the state’s ability to create peace and stability and to effectively administer and deliver services include cattle raiding, poverty due to a lack of alternative livelihoods, an abundance of oil as a coveted natural resource, and the lack of effective governance, especially at the community level (payams and bomas).

There are currently only two major sources of livelihood in Warrap: small-scale agriculture and cattle keeping. With few alternative sources of livelihood and a bulging juvenile population, youth unemployment is high. In relation to agriculture, Warrap State experiences a cereal deficit. More than half (63%) of Warrap’s population is considered to be food deprived, and the state is supported by WFP food distribution. Although WFP food distribution was shown to increase by more than 30,000 tons the following year, as of 2009, the actual distribution was short of it’s planned target of 74,000 tons.

2.3 AGOK & TWIC

With a population of 52,833, Agok is situated 20 miles southwest of Abyei town and on its southern edge of contested territory; as such it is often a place of refuge for those escaping violence in Abyei Administrative Area. For the purpose of this study, Agok is considered to be within Warrap State. However, the area is claimed by both the Government of South Sudan as well as Sudan. Of the 8,266 households in the area, 80.0% practice farming (n= 6,612). With a net cereal production of 3,095 tons in 2011, there was a negative 1,990 ton deficit (5,084 tons consumed).

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8 Community Consultation Report, Warrap State, South Sudan. United Nations Development Program, Bureau for Community Security and Small Arms Control South Sudan Peace and Reconciliation Commission, May 2012, Juba, South Sudan.
9 NBS statistical yearbook 2011, 5th Sudan population and housing census, 2008.
10 Ibid.
12 Community Consultation Report, Warrap State, South Sudan. United Nations Development Program, Bureau for Community Security and Small Arms Control South Sudan Peace and Reconciliation Commission, May 2012, Juba, South Sudan.
13 Warrap State experienced a cereal deficit of -10,219 tons in 2010.
14 Ministry of agriculture and forestry; FAO/WFP crop and food security assessment mission (CFSAM), 2011 in the NBS Stat yearbook 2011
Twic County is the most densely populated county in Warrap State, with a population of 227,558 recorded in mid-2012. Of the 37,897 total households, nearly all engage in farming (95%, n=36,002). Twic County experienced a deficit of cereal production in 2013 of -358 tons, with a net cereal production of 20,737 tons.

2.4 BACKGROUND ON GOAL PROGRAMMING IN TWIC AND AGOK, WARRAP STATE
GOAL has been operating in South Sudan since 1985 and implements Health, Nutrition, WASH and livelihood programs in five sites, including Twic County, Warrap State and the Abyei Administrative Area. Recently, since the signing of the CPA, GOAL is in the process of transitioning from emergency intervention towards development programming in the region. With funding from the EC, GOAL aims to increase resilience, food availability and income for crisis-affected populations in Warrap State. This will come to fruition through the creation of Farming Associations, with each association constituting roughly 30 members who are engaged in farming.

This project specifically aims to contribute to increased food and income security of crisis affected populations in Warrap State through increased and diversified agricultural production and improved access to and development of quality markets and diversified income sources. Project activities include the creation of demonstration farms to integrate new technologies into local usage, capacity building of individual farmers, as well as facilitating the formation and development of farmer groups linked with local and regional traders. Beneficiaries include motivated, vulnerable and marginalized individuals and the project will link with non-traditional groups including indigenous traders to strengthen the market systems within the area.

3 OBJECTIVE & METHODOLOGY
This comprehensive market assessment examines the existing market (formal and informal) setup and its readiness to support programming for First-Level Farming Associations in Twic County and the village of Agok in Warrap State, South Sudan. This assessment will allow for a better understanding of the trading environment for target beneficiaries in Warrap State.

3.1 METHODOLOGY
This assessment utilized the Training for Rural Economic Empowerment (TREE) model as a basis for creating a comprehensive baseline assessment and value chain analysis. Developed by the International Labor Organization (ILO) in 2009, TREE was designed for creating and implementing income-generating programs in rural areas. Despite this rural focus, it can also be modified and applied to semi-urban areas, as was done for this assessment. The TREE manual was developed with participation from various stakeholders and experts to form an internationally respected model for the development of livelihood projects. The TREE model incorporates all aspects of a potential project; however this report primarily utilized those aspects related to forming a comprehensive market assessment in order to develop livelihood projects.

15 FAO/WFP Crop and Food Security Assessment Mission to South Sudan, February 2013, Food and Agricultural Organization of the United Nations, 12.
3.1 TOOLS
In order to assess potential market opportunities in Agok and Twic, both quantitative and qualitative research was conducted. For the quantitative component, 81 farmers were interviewed in Agok and 124 farmers were interviewed in Twic to gather information about their activities, how their produce was utilized, and any training they had received or wished to receive. Two separate tools were utilized to collect quantitative data from GOAL beneficiaries and relevant stakeholders. A Consumer Demand Questionnaire, to identify consumer preferences and needs for agricultural products and a Farmer Questionnaire, to elicit information on current techniques, input sources and prices, output levels, sale mechanisms, market linkages and possible value chains.

Data was collected using Samsung Smartphones operating Android with the program Magpi. Surveys were sent electronically to the server, with quality control checks being performed nightly. Data was then exported to Excel and analyzed using IBM statistical software.

Qualitative data collection was grounded in FGDs and SSIs. A foundational FGD with GOAL staff ensured an in-depth understanding of the program objectives and area context. A market observation contributed to an overview of the local economy and in-depth interviews with government actors identified national and regional programs and priorities for agriculture. Further, FGDs were conducted with farmer beneficiaries and local traders to map constraints and facilitators for production, market access and linkages, and supply chains. An FGD with the local Farmer Trade Association provided further insight into market demand, qualifications, constraints and market linkages.

3.2 LIMITATIONS
While GOAL livelihoods programming extends to other market areas in Abyei Administrative Area, it is critical to emphasize that this assessment represents data collected in the main market in Agok and the adjacent beneficiaries.

There were no female applicants for the positions of translator or data collector and as such, only male support staff assisted in this assessment. As the GOAL project did not include explicitly gender sensitive content, it is anticipated that the impact of this limitation is minimal.

Unfortunately additional service providers such as blacksmiths were unable to be located and so the assessment of service providers is limited to grinders. While this limits the conclusions that can be drawn about market opportunity, cost and demand for services in the market, it also conveys low availability of diversified services.

An additional limitation in Agok was the presence of familial ties between the interpreter and a member of one of the farmer FGDs. This resulted in disproportionate input from the family member directly, and although input was elicited from all participants, the content or candor of other respondents may have been influenced by this connection. Given the sensitive nature of FGDs as well as the operating environment, it was not considered appropriate to remove this individual from the interview; rather the field researcher provided the opportunity for all participants to speak.

16 Formerly known as EpiSurveyor.
4 FINDINGS FOR VALUE CHAIN ACTORS IN AGOK

The major value chain actors in Agok are small-scale producers/farmers, local traders, and local consumers. It is a relatively simple value chain, characteristic of subsistence farming in an economically suppressed economic context. Current market-related services include input supplies (seeds) and local transport, and (limited) local market information (prices, buyers). This assessment was limited to the following value chain actors in Agok village: Local farmers, Local consumers, Local Traders. It also included representatives from GOAL and local farmers’ associations, both are ‘formal’ organizational actors who can play a positive (facilitating/enabling) role in influencing the development and strengthening of the overall value chain market in Agok. Finally, while this assessment evaluated key points in the market chain in Agok, it was not, as many value chain analyses (VCA) are, a VCA of a singular commodity (e.g. a specific crop).

Figure 1: VALUE CHAIN ACTORS - AGOK

4.1 DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION FOR FARMERS

The majority (89%, n=31) of farmers surveyed in Agok are from South Sudan. Two of the farmers are from Darfur, and two are originally from Uganda. The majority of farmers (53%, n=43) self-identified as IDPs, while a third self-identified as members of the host community/local residents (38%, n=31). With respect to the sex/gender of farmers surveyed, the majority are female (60%, n=49) and 39% (n=32) are male. The average age of farmers surveyed in Agok is 42 years, with a reported maximum age of 97 years and minimum of 20 years.

Figure 2: AGES OF FARMERS – AGOK
Farmers in Agok have received either little to no formal education: 75% (n=61) have had no formal education, 19% (n=15) some primary, and one farmer (1%) some secondary education. Three farmers (4%) have a Primary Certificate, and 1 farmer (1%) holds a Secondary Certificate. This finding is consistent with the extremely low education indicators for South Sudan as a whole, particularly for females, who represent the majority of farmers surveyed in Agok.

On average, there are 8.37 people living in each farmer household in Agok. The average number of adult men and women and boy and girl children per household is presented in the figure below. On average there was 1.06 men over the age of 18, 1.58 women over the age of 18, 1.52 boys between 6 and 17 years old, 1.62 girls between the age of 6 and 17, .89 boys under 5 years of age and 1.21 girls under the age of 5, in each farmer household in Agok. Notable is the relatively few number of men per household.
Among 81 farmers surveyed, 33% (n=27) have someone with a severe illness or physical handicap living in their household, and the majority of households (67%, n=54) do not. Respondents did not specify the types of illness or disability.

Of the 81 farmers surveyed in Agok, all are members of a GOAL Farmer group. Among the 70 farmers who answered a survey question about whether they are a member of business group, farmer cooperative, or trade union, 66 (94%) answered ‘yes’, and 4 (6%) responded ‘no.’ Of the 67 (98%) of farmers who additionally identified the type of organization they are members of, 97% (n=65) are members of a Farmers Association, and 3% (n=2) are members of a Village Savings and Loan Association (VSLA).

Agricultural production is the main source of livelihood for 38.3% of the 81 farmers surveyed in Agok. Other reported livelihood sources are unskilled labor 34.6% (n=28), food aid assistance 21% (n=17), skilled labor (artisan) 2.5% (n=2), and collecting natural resources 2.5% (n=2) and 1 farmer (1.2%) listed employee work as his/her main source of livelihood. Livestock rearing was not mentioned as a source of livelihood for any of the farmers surveyed in Agok.

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17 Researchers verified this by checking participant’s GOAL beneficiary identification cards.
4.2 HOUSEHOLD FARMING
The different elements in the first part of the value chain – farmers – include seeds, crop diversity and yields, rationales for farmers’ use or purchase of seeds x, y, or z, and the prices and quantities of crops sold as they move to the right on the value chain.

The majority of farmers surveyed in Agok (86%, n=70) reported that their households have access to land (including Feddans - a unit of area equivalent to 0.42 hectares, or 1.038 acres) for farming.

The majority (86%, n=70) of farmers surveyed use their household land for farming. Among this group, 94% (n=66) reported that they had planted their land in the previous season. The average Feddan land planted in the previous season was 3.64. In Agok, the average Feddan land accessible was 3.69, while the maximum quantity accessible was 8 Feddans.
Figure 8: HOUSEHOLDS PLANTED LAND IN PREVIOUS SEASON – AGOK

- Yes, planted land (n=66)
- No, did not plant land (n=4)

Figure 9: AMOUNT OF FEDDAN LAND PLANTED IN PREVIOUS SEASON - AGOK

- Average Feddan land planted = 3.64
- Maximum Feddan land planted = 7.00

4.3 CROPS PRODUCED BY FARMERS

Farmers in Agok typically have slightly more than two harvests per year, with an average of 2.59 crops/year. The maximum reported number of harvest per year was 50 (although it is possible that the respondent who gave this figure understood the question as referring to the number of times an individual crop was picked) and the minimum, zero harvests per year.

Although the number of farmers producing second, third, fourth or fifth crops in addition to a first crop declined with each additional crop farmers were asked about. It appears that whenever possible, farmers in Agok deliberately spread out their basic crop establishment as a strategy both of survival, and risk aversion.
The majority (87%, n=61) of farmers reported that they had produced a main crop in the previous season. All reported that the crop they had produced was sorghum. The production by farmers of sorghum as the main crop is an interesting finding, given the reported fact that sorghum is one of the main food items distributed by the World Food Program (WFP), and that WFP donated sorghum is widely available in the biggest local market of Aniet. According to FGD participants in Agok, WFP distribution of sorghum drastically lowers the price that farmers can obtain for it in the market, as well as its selling price to consumers. One FGD participant commented that sorghum is locally produced and sold in the market, and that no one needs the WFP to distribute this. However, in Wau, sorghum sells for more because there is no local production, while in Agok, it sells for half the price that it sells for in Wau.

Among the farmers who had produced a main crop in the previous season, 61% (n=25) had produced a second, additional crop, while 59% (n=36) had not. Of the farmers who produced a second crop, the most common crop they produced was maize (16%), followed by 10% sesame, 7% grew okra, 2% grew groundnuts, 2% pumpkin, and 3% grew another unspecified cash crop.

Fifteen (69%) of the 25 farmers who responded to questions about a third crop reported that they had produced a third crop. Among this group, 16% produced okra, 16% beans, 12% produced maize, 12% sesame, and 4%, groundnuts.

Among the 15 farmers who responded to survey questions about a fourth crop, 20% had grown beans, 13% okra, 13% groundnuts, 13% grew tobacco. While pumpkin, sesame and maize were each grown by 7% of the farmers.

Most of the 61 farmers surveyed had not grown a fifth crop in the previous season. Of the 13 farmers who did, 4 (29%) grew pumpkin, 3 (21%) grew sesame, 2 (14%) okra, 1 farmer grew maize and beans, and 1 grew another unspecified cash crop.

**Figure 10: MAIN CROP CULTIVATED BY HOUSEHOLDS IN PREVIOUS SEASON – AGOK**
Figure 11: SECOND MOST COMMON CROP CULTIVATED BY HOUSEHOLDS IN PREVIOUS SEASON – AGOK

![Pie chart showing the second most common crops cultivated by households in the previous season in Agok.]

- Did not produce a second crop: 59%
- Maize: 16%
- Sesame: 10%
- Okra: 7%
- Other cash crop: 5%
- Millet: 2%
- Groundnuts: 2%
- Pumpkin: 2%

n=61

Figure 12: THIRD MOST COMMON CROP CULTIVATED BY HOUSEHOLDS IN PREVIOUS SEASON

![Pie chart showing the third most common crops cultivated by households in the previous season.]

- Did not produce a third crop: 40%
- Beans: 16%
- Okra: 16%
- Sesame: 12%
- Maize: 12%
- Groundnuts: 4%

n=25
4.4 CROP YIELDS IN PREVIOUS SEASON AND AMOUNTS CONSUMED, SOLD, OR EXCHANGED

For the most part, the household farming that farmers in Agok engage in is subsistence farming. Although agriculture is one of their main sources of livelihood, farmer households consume most what is grown (with harvested food typically lasting a reported average of 2.57 months), leaving little of each harvest remaining to sell in the market. For example, of the average 164 kilos of the main crop cultivated by farmer households in the previous season, an average of only 38 kilos was sold or exchanged. This is also the case with the second, third, fourth and fifth most commonly cultivated crops; households consumed a significantly greater proportion of each crop than they sold or exchanged. This is shown in the charts below.
4.5 Farming Methods
All (100%, n=71) of the farmers’ households use only one type of technology to farm the land: manual labor. Farming in Agok typically involves multiple members of the household, with women comprising the majority (86%) of household members who participate in the different farming activities, at an average number of 1.19 women per household. Fewer men participate in household farming, with an average of only 0.88 men per household. This finding may reflect the overall relatively few number of men per household among farmers in Agok. Few children under the age of 18 reportedly participate in household farming activities in Agok.
4.5.1 PLANTING METHODS
All (100%, n=71) of the farmers use the ‘row’ method to plant their seeds; no one scatters seeds, and no one uses a combination of row planting and seed scattering.

4.5.2 AGRICULTURAL TOOLS
The majority (99%) of farmers surveyed (n=70) purchase their farming tools in a nearby market. This does not include tools that have been given by GOAL or other NGO’s in the region. The tools used to farm the land are typical of subsistence agricultural practices. In Agok, the variety of tools that farmer’s use is quite limited; of 71 farmers surveyed, 70 only use one tool – a malouda – to farm their land, with only 1 farmer indicating the use of a second tool – an adjerai. The majority of respondents (94%, n=67) stated that they use no other tool to farm the land, including the other types of tools typically used in subsistence farming such as a hoe, panga/machetes, spade, or sickle.

4.5.3 IRRIGATION AND WEEDING
The use of irrigation in farming in Agok is highly limited. When asked if they irrigate their land, 100% (n=70) of the farmers answered “No.” This means that the farmers are solely reliant on rain as their means of irrigating their crops. Farmers do, however, weed their crops, with the average reported frequency of crop weeding at 3.32 times per month.

4.6 SOURCES OF FARMERS’ SEEDS
The majority of farmers (97%, n=67) surveyed reported that they use the seeds they have saved from previous seasons to plant their next crop(s). Two farmers (3%) stated that they use seeds that are donated by an NGO or UN agency.

Figure 17: SOURCE OF SEEDS FOR FARMERS – AGOK

4.6.1 TYPE OF SEEDS PURCHASED BY FARMERS IN PREVIOUS SIX MONTHS
When asked about the type of seeds they had tried to buy in the past six months, 90% (n=63) indicated that they had tried to buy sorghum, with 10% (n=7) stated that they had not tried to buy seeds in the past six months. The finding that sorghum was the main type of seed purchased is consistent with the finding that
sorghum is the main crop produced. However, it may potentially also reflect broader questions about whether the seed varieties available (as well as their cost and quality) in local markets genuinely reflect farmers’ needs.

4.6.2 MARKETS WHERE SEEDS ARE PURCHASED
All of the 56 (100%) farmers who bought seeds purchased them at a nearby market, providing evidence of a consumer demand among farmers for seeds that are sold in the market.

4.6.3 QUALITY OF SEEDS PURCHASED
Among 70 farmers surveyed, 80% (n=56) had purchased seeds in the past six months at a nearby market, and 9% (n=6) had not purchased any seeds. Among farmers who purchased seeds, 49% (n=34) were satisfied with the seeds they had purchased. For 28 farmers who reported being dissatisfied, the reason given was that the seeds were expensive. One farmer was dissatisfied because of a low germination rate, and another, because of delayed germination.

4.6.4 SEED AND GRAIN SELECTION, PROTECTION, AND STORAGE
The two methods among farmers in Agok for determining which seeds to save are: 1) whether or not the seeds are uniform; and 2) whether or not the seeds are healthy. One question that may merit follow-up is whether the seeds selected are in any way mixed (type, quality) and the extent to which this may potentially impact overall yields.

Figure 18: METHODS FOR DETERMINING WHICH SEEDS TO SAVE – AGOK

4.6.5 METHODS OF PROTECTING AND STORING SEEDS AND GRAINS
All of the 70 farmers surveyed (100%) protect their seeds by drying them in the sun. No one reported using other methods (e.g. ash, cow dung, smoking of seeds) to protect their seeds and grains. All use a local store for seed and grain storage. No farmer indicated using any other method for storing seeds and grain such as an improved store, basket, or gourd.
4.7 THE ANIET MARKET
The largest market in Agok is Aniet Market. From observations by Forcier researchers, the market has an estimated number of 400 plus stalls; market structures are predominantly wood and corrugated tin. Produce, livestock, manufactured household goods, and services are available. With regard to produce, Forcier researchers found onions, eggplant, and sweet potatoes present with greater frequency than items such as oranges and pumpkins. Sugar, dried fish, groundnuts, garlic, and green chilies were also widely available. Cows and goats were abundant and available for purchase. Household goods in the market included clothing items (mostly imported), soap, and cookware. Services offered include multiple grinding mills, catering (restaurants) and one tailor.

According to FGDs with GOAL staff, the main consumers of agricultural goods from Aniet market are the local community, who buy goods for home use and for use in local businesses. Although sometimes community members travel out of Agok for better prices, this is dependent on whether or not they have vehicles. This was confirmed by the total of 35 customers surveyed in Agok; the majority (91%, n=32) stated that they purchase goods from a nearby market. Two of the consumers surveyed purchase goods in Juba, and one travels to Kampala to purchase goods from markets there.

In FGDs, GOAL staff in Agok reported that the top five agricultural goods available in Aniet market are sorghum, rice (from outside), wheat flour, groundnuts, and foul/Egyptian beans. Other goods that are usually available in the Aniet market are okra, eggplant, red and white sorghum, tomatoes, pumpkins, lemon, kudra, red chilies, flour, groundnuts, lentils, sweet potatoes, maize, onion and guava.

According to FGDs with GOAL staff in Agok, in general a combination of locally produced goods (though in small amounts) and goods from outside of Agok are sold in Aniet market. Examples given include sorghum, which both comes from Sudan and is locally produced and stored after being harvested. Groundnuts and sesame are produced locally, but traders transport them out of Agok to sell in other markets. Absent from the market, according to GOAL staff, are fruits; namely bananas, pineapples, and mangos. When such items are available locally, they are prohibitively expensive. Sweet potatoes and yams were reported as being found in small quantities in the market, but like sesame (sim sim) are frequently unavailable. GOAL staff reported that people travel to Abotoh, Wau and Aweil for these items, as well as for kudra, eggplant, tomatoes and cabbage when they are unavailable locally. The lack of availability to consumers of local vegetables was confirmed by GOAL staff, who noted that although the commonly produced local vegetables include okra, kudra, eggplant, pumpkin and jir jir, vegetables as a whole are very limited in Aniet market.

4.7.1 FARMERS’ METHODS OF TRANSPORTING CROPS TO MARKET
The primary means by which the majority (57%, n=40) of all farmers in Agok surveyed (n=70) carry their crops to the market is on their back. Only 1 farmer reported using a bicycle to carry crops to the market, and none reported using an animal or vehicle. A full 41% (n=29) of the farmers reported that they do not transport their crops to market at all.
The average amount of time it takes farmers in Agok to walk from their homes to the market is 75.57 minutes (approximately 1 hour and 25 minutes). The maximum amount of time reported to walk from home to market was 180 minutes (3 hours), and the minimum, 8 minutes.

According to GOAL FGD staff in Agok, this poses a challenge to the ability of farmers to sell in quantities directly to consumers in the market, rather than sell their crops to traders who sell in the market. This includes women who walk to the market and sell what they have by themselves – which reflects quantity, because they can only sell how much they can carry. This is particularly true of vegetables, which women farmers sell directly, but only in small quantities.

4.7.2 CHALLENGES TO FARMERS IN ACCESSING MARKETS

When surveyed about the difficulties they face entering the market with their products, the primary challenge cited by farmers in Agok is that they do not have a sufficient supply of crops to cover demand. Other challenges cited by farmers are high transportation costs, which limit the quantities that farmers can sell because they have to carry their products to the market on foot or in carts. Other challenges mentioned by both farmers and GOAL staff include: lack of money to establish a presence in the market; too many farmers/traders in the market selling too many similar items; limited seasonal access – farmers access markets during the dry season but it is harder during the rainy season; and farmers selling on an individual basis without the help of farmers’ associations that could bring them together to sell as a group, helping with both transport costs and overall market accessibility.
According to the FGDs, many farmers do not sell their crops at the main market because they’re not traders, and feel that they cannot compete on an individual basis in the market against the traders. Instead, farmers often sell their crops to traders, who come directly to the farmers to buy them.

Farmers explained that they sell to traders for less than what the crops sell in the market. According to one farmer, farmers “sell low” so the trader has an interest in buying their crops because the additional cost to transport the goods to the market has to be accounted for, and farmers want the traders to return. Some farmers agree when traders ask them for a discount, on agreement that the next time the trader or his friend will come straight to the farmer. Another farmer commented that she or he would not sell in the market directly because traders are already selling the same crops and no one will buy them. Also, transport is unavailable. According to a GOAL staff FGD participant, there is 2-way traffic; farmers sometimes sell to traders and some sell directly to consumers. It depends on the quantity the farmer is selling. This includes women who walk to the market and sell what they have by themselves. This limits the quantity they can sell, because they can only sell how much they can carry. This is particularly true of vegetables, which the farmers sell directly in the market, but in small quantities.

### 4.7.3 CHALLENGES TO FARMERS TO COMPETE IN MARKET

Despite the challenges Agok farmers face in accessing markets for their products, only 50% (n=35) of all farmers surveyed (n=70) feel they are unable to compete with other farmers selling similar goods in the market. Among the 50% (n=35) of farmers who stated that they are unable to compete with other farmers, 100% said it is because they have less variety of produce to sell than other farmers. GOAL staff in FGDs additionally noted that in Aniet market, there is no specification or specialization in what people sell, with everyone selling the same items in the same area. However, this was not cited as posing a significant challenge to farmers’ ability to compete with each other in the market.
4.7.4 FARMER SATISFACTION WITH AGRICULTURAL TRADERS IN THE MARKET
In spite of the difficulties farmers face in accessing and competing in markets, on the whole, farmers are satisfied with agricultural traders in the market. While 4% (n=3) of 70 farmers surveyed in Agok have never used or tried to use the service of agricultural traders in the market, among those that have, almost half (49%, n=34) reported that they are satisfied with the agricultural traders in the market. Reasons given for those who are dissatisfied are lack of supply of goods 46%, (n=32), with 1 farmer (1%) reporting dissatisfaction because the supply of goods is inconsistent.

Figure 21: FARMERS’ SATISFACTION WITH AGRICULTURAL TRADERS IN THE MARKET – AGOK

5 FINDINGS FOR CONSUMERS IN AGOK
5.1 DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION FOR CONSUMERS
A total of 35 consumers were surveyed in Agok. Representation of men and women was nearly equal, with 51% (n=18) male, and 49% (n=17) female. The majority 89% (n=31) of consumers surveyed (n=35) are from South Sudan. Two (6%) are from Darfur, and two (6%) from Uganda. The average age of consumers surveyed is 30 years; with the oldest consumer 47 years old, and the youngest being 15 years old.

Weekly income among consumers in Agok reflects the overall extreme level of poverty throughout South Sudan, with 46% of consumers (n=16) earning less than 50 SSP a week.

<table>
<thead>
<tr>
<th>AVG. WEEKLY CONSUMER INCOME</th>
<th>N=35</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDER 50 SSP</td>
<td>16</td>
<td>46%</td>
</tr>
<tr>
<td>50-100 SSP</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>100-200 SSP</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>200-500 SSP</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>UNABLE TO RECALL/ESTIMATE</td>
<td>12</td>
<td>34%</td>
</tr>
</tbody>
</table>

Among consumers surveyed, 57% (n=20) earn their weekly income themselves; 23% (n=8) receive it from their spouse, 3% (n=1) from a parent, and 11% (n=4) indicated their source of weekly income as “other.”
5.2 CONSUMER SATISFACTION WITH GOODS IN THE MARKET

In order to assess the attitudes of consumers to goods and services available in their local market, research was conducted within the market, during which time 35 consumers were interviewed. People were asked about their consumption of and satisfaction with various goods and services, as well as the reasons why they were dissatisfied if they indicated they were. Specifically, the survey included questions about the crops/produce that Agok farmers reported producing and selling: wheat, sorghum, millet, maize, rice, and roots (cassava, yams and potatoes). The following table presents the findings for consumer demands and preferences in local markets in Agok.

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18 Questions about a wide range of items, including meat, fish and dairy products were included in the survey. Respondents’ answers discussed in this report, however are limited to those goods/items that Agok farmers reporting growing and selling in local markets. Included in the Appendix are all of the survey questions administered to Agok consumers, including for those items that the farmers surveyed for this report do not produce or sell.
### Table 1: CONSUMER DEMAND FOR AGRICULTURAL PRODUCTS – AGOK

<table>
<thead>
<tr>
<th>Item</th>
<th>N=35</th>
<th>HAVE BOUGHT</th>
<th>HAVE NEVER TRIED TO BUY/NEVER BOUGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHEAT</td>
<td>13/37%</td>
<td>22/63%</td>
<td></td>
</tr>
<tr>
<td>SORGHUM</td>
<td>15/43%</td>
<td>20/57%</td>
<td></td>
</tr>
<tr>
<td>MILLET</td>
<td>8/23%</td>
<td>27/77%</td>
<td></td>
</tr>
<tr>
<td>MAIZE</td>
<td>13/37%</td>
<td>22/63%</td>
<td></td>
</tr>
<tr>
<td>RICE</td>
<td>31/89%</td>
<td>4/11%</td>
<td></td>
</tr>
<tr>
<td>ROOTS (CASSAVA, YAMS, POTATOS)</td>
<td>19/54%</td>
<td>16/46%</td>
<td></td>
</tr>
<tr>
<td>PULSES (GROUNDNUTS, BEANS, PEAS, LENTILS)</td>
<td>26/74%</td>
<td>9/26%</td>
<td></td>
</tr>
<tr>
<td>SESAME</td>
<td>26/74%</td>
<td>9/26%</td>
<td></td>
</tr>
<tr>
<td>OKRA</td>
<td>26/74%</td>
<td>9/26%</td>
<td></td>
</tr>
<tr>
<td>LOCAL VEGETABLES</td>
<td>22/63%</td>
<td>13/37%</td>
<td></td>
</tr>
<tr>
<td>WILD PLANTS</td>
<td>18/51%</td>
<td>17/49%</td>
<td></td>
</tr>
<tr>
<td>LOCAL FRUIT</td>
<td>16/46%</td>
<td>19/54%</td>
<td></td>
</tr>
<tr>
<td>FLOUR</td>
<td>32/91%</td>
<td>3/9%</td>
<td></td>
</tr>
<tr>
<td>LOCALLY MADE STRAW PRODUCTS</td>
<td>25/71%</td>
<td>10/29%</td>
<td></td>
</tr>
<tr>
<td>(BAMBOO, STRAW, REED)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCALLY MADE TOOLS (AGRICULTURAL &amp; OTHER)</td>
<td>30/86%</td>
<td>5/14%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 below lists the different goods consumers were asked about and reasons for dissatisfaction with them, if any. Sorghum (26%), Maize (26%), and Okra (34%) were the goods that had the highest percentages of farmers satisfied with them the market. The main source of dissatisfaction was goods being too expensive; with 91% agreeing flour, 74% sesame, 63% pulses (groundnuts, beans, peas, lentils), 46% locally made straw products and 43% locally made tools were listed as too expensive in the market.
Consumers were also asked about the purchase of seeds in the market. A majority (82%) of consumers had purchased seeds in the past six months; sorghum, maize, beans, and tobacco, with sorghum being the seed most purchased. The majorities were satisfied with the seeds they had purchased, with no one citing problems with a lack of supply or poor quality, although 2 respondents said that the seeds were too expensive.

### 5.3 CONSUMER SATISFACTION WITH SERVICES IN THE MARKET

Services being offered in Aniet market were perceived as limited. A water distribution service, importers/exporters of vegetables, selling of mechanical items and generator repair services were missing from available services. For the latter of these services, people travel to Wau or Juba. The majority 60% (n=21) of consumers surveyed for this report confirmed that there are goods and services that they cannot obtain locally, and must travel to far away markets to find. Markets that consumers travel to include other nearby markets 24% (n=5), Wau 52% (n=11), Juba 14% (n=3), and Kampala 5% (n=1). However, accessibility to these markets is limited due to the high costs of local means of transportation such as boda bodas, rickshaws, and hiaces. While the majority of consumers surveyed have never used a boda boda, hiace or rickshaw, among those who have, their most frequent comment was that they are too expensive.

The majority of customers surveyed (60%) have used trader services to sell produce in the market. Although 17% reported being satisfied with these services, the two biggest reasons given for dissatisfaction are that there are not enough traders (23%) and that that traders lack an adequate supply of goods (20%).

Regarding specific services offered in Aniet market, the majority of consumers surveyed have never used the service of a manual grinding mill (86%) or a mechanical grinding mill (77%) in Aniet market. Most consumers surveyed (89%) have never purchased cut fruit or vegetables, or used the services of a

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**Table 2: CONSUMER SATISFACTION WITH GOODS PURCHASED IN LOCAL MARKET - AGOK**

<table>
<thead>
<tr>
<th>Consumer Satisfaction/Dissatisfaction with Goods Purchased</th>
<th>Satisfied with market</th>
<th>Too Expensive</th>
<th>Poor Quality</th>
<th>Lack of Supply</th>
<th>Poor Customer Service</th>
<th>Do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>3 9%</td>
<td>8 23%</td>
<td>1 3%</td>
<td>1 3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td>9 26%</td>
<td>6 17%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millet</td>
<td>0 0%</td>
<td>3 9%</td>
<td>1 3%</td>
<td>4 11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td>9 26%</td>
<td>2 6%</td>
<td></td>
<td>2 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>2 6%</td>
<td>27 77%</td>
<td></td>
<td>2 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roots (cassava, yams, potatoes)</td>
<td>0 0%</td>
<td>12 34%</td>
<td>2 6%</td>
<td>2 6%</td>
<td>1 3%</td>
<td>2 6%</td>
</tr>
<tr>
<td>Pulses (groundnuts, beans, peas, lentils)</td>
<td>2 6%</td>
<td>22 63%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesame</td>
<td>0 0%</td>
<td>26 74%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okra</td>
<td>12 34%</td>
<td>12 34%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local vegetables</td>
<td>1 3%</td>
<td>10 29%</td>
<td>9 26%</td>
<td>2 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild plants</td>
<td>1 3%</td>
<td>14 40%</td>
<td>3 9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local fruit</td>
<td>1 3%</td>
<td>3 9%</td>
<td>10 29%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flour</td>
<td>0 0%</td>
<td>32 91%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locally made straw products (bamboo, straw, reed)</td>
<td>0 0%</td>
<td>16 46%</td>
<td>1 3%</td>
<td>7 20%</td>
<td>1 3%</td>
<td></td>
</tr>
<tr>
<td>Locally made tools (agricultural &amp; other)</td>
<td>1 5%</td>
<td>15 43%</td>
<td>3 9%</td>
<td>10 29%</td>
<td>1 3%</td>
<td></td>
</tr>
</tbody>
</table>
blacksmith to make agricultural tools (91%). In addition, when asked whether they have ever purchased products directly from a dairy farmer, 43% (n=15) commented that there were not enough service providers.

According to FGDs, some NGOs have brought grinding mills to villages. However, the grinding mills brought are apparently for maize, when farmers primarily produce sorghum. There are few blacksmiths in Aniet who only produce tools that can be made with a hammer and anvil, because the materials they need are highly limited, expensive, or simply not unavailable.

6 FINDINGS FOR TRADERS/BUSINESS OWNERS IN AGOK
The largest market in Agok County is Aniet Market, which has approximately 400 stalls. The main distributors of agricultural products in Aniet market are traders/business owners, who either acquire goods from small-scale local farmers or farmers in Abotoh. The majority of businesses operating in Aniet market are engaged in selling everyday items for consumption such as sugar, flour, rice, coffee, macaroni, sorghum and kudra. Many of the traders in the market are Darfurian, although prior to the road closures at the border, more traders would come from Khartoum and Darfur to buy from farmers and transport goods to Agok. Respondents identified a shift in the origin of imported agricultural goods; items now come from East Africa instead of Sudan.

All 6 of the business owners interviewed in Aniet Market identified themselves as the main owner of the business (6 respondents), with the period of ownership varying widely between 1 week and 9 years. Most of the respondents in qualitative surveys were unable to identify a weekly income; however this was confined to interviews with traders. In addition to being able to estimate weekly income, sorghum grinders claimed higher weekly incomes than traders. Traders identified their income as being dependent on the market environment, while grinders did not, perhaps conveying more consistent business and therefore, an increased ability to anticipate regular income. Service providers interviewed for this assessment were limited to sorghum grinders.

The majority of respondents stated that their current income is not sufficient to support them and their family. Some respondents reported planning to resolve this by budgeting a portion of their income to reinvest in their current business or being open to shifting to a new type of work.

Most respondents do not have employees; for those who do, the average number of employees is 1 (2 respondents). The remaining pair of business owners with employees employed 2 and 3 people, respectively. In semi-structured interviews with business owners in the market, all respondents expressed interest in expanding their business, but none yet had a plan for how or when this would occur. The primary limitation was the lack of capital. One respondent elaborated that if he had sufficient enough capital, he would prioritize acquiring machines to assist in agriculture to expand his business. In spite of their lack of capital, none of the individuals interviewed expressed an interest in undertaking any additional livelihoods activities, instead preferring to focus on the market and reinvest in their current business venture.

6.1 GOODS SOLD IN MARKET BY TRADERS
According to traders, the best-selling food items in Aniet market are kudra - acquired from Abotoh - and sugar, which is acquired from Juba. These are purchased by traders and transported via shared commissioned vehicles, with the type of transport varying according to distance – e.g. small vehicles are
utilized for shorter regional (Wau, Abotoh, etc) distances, while larger trucks bring goods from Juba and East Africa. Locally produced groundnuts are also available, and are transported to the market by farmers on foot, and then sold to traders. In qualitative interviews with business owners, sorghum, maize, groundnut, onion, and okra were cited as being offered by too many people.

6.2 SOURCES OF MARKET GOODS SOLD
According to business owners, the available agricultural goods in Aniet market come from Abotoh, Wau, and Juba, where they are also grown. Some locally produced items include maize, groundnuts and sorghum. Imports from NGOs were also identified as a prominent source of agricultural goods, particularly of sorghum. These interviews further suggest that most agricultural goods are transported by commissioned vehicle (pick-up truck or lorry) by traders, with Wau identified as the most common point of origin. Of the farmers who transport agricultural goods to sell in the market 57% (n=40) carry the goods on their back, 1% (n=1) use a bicycle. The remaining 41% (n=29) do not transport their goods to the market.

6.3 SERVICES AVAILABLE IN THE MARKET
Trader respondents perceive that the services currently offered in Aniet market are limited. A water distribution service, importers/exporters of vegetables, selling of mechanical items and generator repair services were missing from available services. For the latter of these services, people travel to Wau or Juba.

6.4 CUSTOMER BASE FOR MARKET GOODS AND SERVICES
Almost all respondents selling goods or providing services in Aniet market reported having repeat customers. However, it is unclear whether this trend will remain consistent. While one grinder interviewed cited an increase in repeat business at the time of WFP food distribution, a trader claimed a decrease in repeat customers as persons displaced from Abyei Town return to their homes. Most respondents preferred repeat customers to new customers, one individual noting that the preference comes from reliability of income. Those who preferred new customers did so because of the opportunity to expand the customer base. Some respondents did not specify a preference, so long as the consumer paid at the time of purchase and did not buy on credit.

6.5 CHALLENGES TO BUSINESS OWNERS/TRADERS IN ENTERING THE MARKET
While respondents did not initially specify constraints to entering the market, distinct challenges were identified with regard to selling in Aniet market. The first challenge is the nature of operating a business in the market, which is unpredictable, with a risk of losing money. Namely, if a farmer decides to sell goods himself, rather than to a trader in order to increase his profit margin slightly, there is a risk that he may not be able to sell enough of his goods to turn a profit. The other challenge is in relation to security, which is lacking in the market. Multiple respondents identified the presence of thieves in the market, with a particular dearth of security at night. Incidents of theft are reported to the police, who provide security by walking through the market. However, the individual policemen regularly change, and their impact on security is seen as limited to times when they are actually present in the market.

According to those interviewed, no NGOs or government agencies are providing support for small businesses in the market. Respondents did however; mention local business associations such as the High Administration for the market. Membership is free and the group meets to discuss relevant issues, such as the desire for support for the creation of permanent buildings. For entry, individuals must talk to the Chairman to be considered for membership. Members may benefit from the support of other members in the event of a disaster or medical emergency. Membership in the farmer trade union was identified as
serving as representation, rather than offering direct support to members who gain entry into the union by being appointed by a current member. Meetings occur irregularly. Registration with a business group or a trade union is not required to sell in Aniet market, although in surrounding areas this may not be the case for these traders (ex. Mapal in Twic).

The majority of respondents indicated that there were not any mandatory steps to enter the market. Some respondents noted possible processes of questionably voluntary nature. While individuals with sufficient start-up capital can register with the chairman or market administration, others can partner with “brothers” to share a shop/stall and build capital, then register with the government (the administration for Abyei County) as an independent trader. [Infers that you need to be registered with Abyei County to have own business, which could indicate that a mandatory step is in place but not enforced]. Similarly, the government is said to require social insurance in the event of disaster, and more informally, elicit a protection fee for which the individual receives a receipt. However, the provision of such services is subject to unequal application, as “favoritism” results in varying costs for protection, which was cited as between 20 – 30 SSP per month.

Three of the six business owners interviewed in the market identified having received skills training that relates to their business. Two respondents are REFLECT participants, participating in GOAL’s numeracy and literacy trainings. Another respondent was trained in business skills – specifically, how to grow a business with a small amount of start-up capital. An NGO named DDR provided the one-week training in Wanjok. The other individual who received training did so through an apprenticeship with a friend that lasted for 3 days, and he found the apprenticeship system suitable as it enabled him to start his own business.

Only two of the respondents identified receiving any vocational training for the business they operate. Of the two, one received training provided by a friend on sorghum grinding, and the other received healthcare training by the Red Cross and WHO for one month and three months respectively.

Of the business owners interviewed, most would prefer to be engaged in business training because they are already utilizing this for their income generation and self-sufficiency. Additionally, an equal number of respondents also expressed an interest in participating in health training, for them and their families, as they expressed a general interest in any vocational training, as long as the instruction was of a good quality, it would enable them to increase their knowledge, and subsequently, their income. English language training was also noted as a preferable skill, for both business and personal fulfillment.

Of the eight business owners interviewed, half had not taken interns or apprentices. In two cases, some respondents expressed a disinterest in doing so, due to risk of injury in the work environment (grinder) and also due to having been apprenticed but deeming the training insufficient. The remaining respondents had taken apprentices, for varying durations and skills. One vegetable seller apprenticed her sister, trained her for one day and enabled her to establish her own business operation independently. A trader with a stall elaborated that previously he repaired eyeglasses and watches, and had trained 15+ other individuals in this trade. Additionally, he expressed having taught 6 people about business and training a schoolboy in operating the generator and groundnut grinder in exchange for school fees. All other apprentices were unpaid.

Although most respondents did not hire employees, the preferential profile of a new employee is a family member or close associate, trustworthiness and behavior trumping qualification. More specifically,
desirable qualities for a potential hire to display are honesty, trustworthiness, a good temperament and the ability to work unsupervised.

All respondents, with the exception of interviewee working in grinding sorghum, identified that hiring was not dependent on an applicants’ training and there was not any difficulty in finding potential employees with the skill set that work requires. Relationship and behavior were again expressed as a factor of higher importance than training, as respondents expressed a willingness to impart skills if the employee is suitable. The benefit to hiring an individual with formal training is framed in their ability to share/transfer skills back to their employer.

No NGOs or government agencies are currently providing support for small businesses in Aniet Market. Farmers and traders identified transportation as the primary barrier to accessing the market; in some interviews clarifying it is not the expense but the sheer absence of transportation options that hinder ability to access the market.

Traders were assessed to have little informal or formal business related training, and limited skills otherwise, with little means to capitalize on the skills that had been acquired.

7 VALUE CHAIN ACTORS IN TWIC

Figure 23: VALUE CHAIN ACTORS – TWIC

7.1 DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION FOR FARMERS
The majority (68%, n=124) of the farmers surveyed in Twic County are from South Sudan. Host/local residents constituted 68% (n=124) of respondents; 20% (n=36) are returnees, 9% (n=16) are IDPs, and 4% (n=7) are returnees living in a camp. The majority (67%, n=123) of the 183 farmers in Twic surveyed for this report in Twic are women (60%); 33% (n=60) are men. The average age of farmers surveyed is 38.91, with a reported maximum age of 80.
Farmers in Twic have received either no or very little formal education: 70% of 183 farmers have had no formal education, 23% have some primary education; 3% have a Primary School Certificate, 2% have some secondary education and 2% had received some post-secondary education.
There are on average 10.81 people in each farmer household in Twic. The majority of households (54%, n=99) reported having a household member with a severe illness or physical disability, while 46% (n=46) do not.

Of the 183 farmers in Twic County surveyed, 69% (n=129) are not currently GOAL beneficiaries. Among respondents who are GOAL 35 (19%) are members of a Farmer’s Association, 20 (11%) are in a GOAL vegetable micro-gardening group, and 2 (1%) are in a Reflect Circle. The majority of farmers surveyed (63%, n=105) indicated that they are a member of a business group, farmer cooperative, or trade union. Of these, 61% (n=64) belong to a farmer association, 18% (n=19) to a VSLA group, 18% (n=19), a vegetable group, 2% (n=2) are members of a trade union, and 1 farmer (1%) is a member of an “other” group.

Among 183 farmers surveyed, the main source of livelihood for 37.2% (n=68) in the past year was agricultural production. In contrast to Agok County, raising livestock is a source of livelihood for some farmers 18%, (n=33). Other reported sources of livelihood in the past year are collecting natural resources such as firewood and grass 12.6% (n=23), and petty trade such as brewing or small business 11.5%
(n=21). For some farmers, fishing is their main source of livelihood 7.7% (n=14), or hunting and gathering 4.4% (n=8). Nine farmers (4.9%) earn their livelihood working as skilled laborers (artisans), 1.6% (n=3) earn their main source of income from employee work, such as for NGOs, the government or UN, .5% earn livelihoods from “other” sources such as beekeeping, and 1.6% from food aid assistance. The two main additional sources of livelihood, outside farmers’ main source are agricultural production (43%), followed by livestock rearing (23%).

Figure 28: SOURCES OF LIVELIHOOD FOR FARMERS – TWIC

7.2 HOUSEHOLD FARMING
Of 183 farmers surveyed in Twic, 91% (n=167) reported that they use their household land (including feddans) for some type of farming. The average amount of feddan land each household has access to is 2.53, with a reported maximum of 20 and minimum of zero. The majority of farmers (94%, n=156) reported that they had planted their household land in the previous season, with each farmer household producing an average of 1.14 harvests per year, with a reported maximum of 4 harvests.

Figure 29: HOUSEHOLDS USING LAND FOR FARMING – TWIC
7.3 CROPS CULTIVATED BY FARMERS
All (100%) of 166 farmers surveyed cultivated a main crop in the previous season, with the majority 78% (n=130) cultivating sorghum as their main crop. The second-most cultivated main crop was maize 11% (n=11), followed by several miscellaneous crops, including “other cereals 3% (n=5) and okra 2% (n=3).
Sorghum was also the second most common crop, with 78% (n=130) of 167 farmer households producing it in the previous season, followed again by maize, which was the second most common crop produced by 10% (n=17) of farmers. Miscellaneous crops – including rice, other cereals, cowpeas, sesame, and other cereals – were grown by a small number of individual households.

The third most common crop produced by farmers (63%, n=104) was once again sorghum, followed by maize (19%, n=32). The remaining farmers in the respondent group cultivated a variety of other third crops, including groundnuts (3%, n=5), okra (2%, n=4), and pumpkin (1%, n=2), water melon (1%, n=1), other vegetables (1%, n=1), or “other cash crop” (1%, n=1). One farmer (1%) did not produce a third crop.
Sorghum (60%, n=98) and maize (18%, n=29) were also the fourth most common crops cultivated by farmer households in Twic. Other farmers cultivated other vegetables (4%, n=7), beans and cowpeas (1%, n=2), groundnuts (1%, n=2), watermelon (2%, n=4), okra (3%, n=5), or “other cash crop” (1%, n=2). Three farmers (2%) did not produce a fourth crop.

For the majority of Twic farmers (65%, n=105) sorghum was also the fifth most commonly produced crop in Twic, followed by maize (12%, n=20), other cereals (6%, n=9), other vegetables (2%, n=4), rice (2%, n=4), beans (2%, n=3), sesame (1%, n=2), groundnuts (1%, n=2), cowpeas (1%, n=1), millet (1%, n=2), okra (1%, n=2), and “other cash crop” (1%, n=2). Five farmers (3%) did not produce a fifth crop.
7.4 CROP YIELDS IN PREVIOUS SEASON AND AMOUNTS CONSUMED, SOLD, OR EXCHANGED

As in Agok, the type of farming that households in Twic engage in is subsistence farming, with households consuming most of what they grow, which leaves little of each harvest remaining to sell in the market. The average reported yield of the main crop cultivated by farmer households in Twic is 85.3 kilos. Of this, household members consume an average of 55.34 kilos, and an average of 25.02 kilos are sold or exchanged. The average reported yield of the second most commonly produced crop is 72.39 kilos. Of this, an average of 45.16 kilos are consumed, and on average, 20.13 kilos sold or exchanged. The third most commonly produced crop yields an average of 80.06 kilos of the third most common crop, with an average of 43.98 kilos consumed, and 22.38 kilos sold or exchanged. The average yield of the fourth most commonly produced crop is 96.22. Of this amount, an average of 49.04 kilos is consumed, and 28.49 kilos sold or exchanged. On average, the fifth most commonly produced crop yields a total of 84.77 kilos. Of this amount, household members consumed an average of 51.96 kilos, and 27.31 kilos are sold or exchanged.
7.5 FARMING METHODS
Among 167 farmers, the main technology utilized by the majority 91% \((n=152)\) is manual labor. In contrast to farmers in Agok, some farmers use other technology; with 7\% \((n=11)\) using animal traction, and 2\% \((n=4)\) machine power. Farming in Twic typically involves multiple members of the household. Women constitute the majority of household members involved in the weeding, cultivating and harvesting of farmland, with an average of 8.1 women per household among all households surveyed. There are on average 4.7 men per household involved in farming activities, and 2.8 children under the age of 18. Data for this question seems skewed and there may have been a misunderstanding, as there was one respondent stating 200 women household members help with farming, another said 75 women and 19 respondents answering that 20-50 women participate in farming in their households. Data for men and children under 18, was more conclusive, with only 7 participants listing 20-30 men participating in farming in their household, and only 1 participant stating there were 50 children under 18 participating in farming in their household.

Figure 38: HOUSEHOLD MEMBER PARTICIPATION IN FARMING ACTIVITIES – TWIC

7.5.1 PLANTING METHODS
Farmers in Twic use more than one planting method, while 50\% of 167 farmers \((n=84)\) use the scatter method to plant seeds, 16\% \((n=27)\) use the row method, and 34\% \((n=56)\) reported using both methods. This is in contrast to farmers in Agok, who reported using only the row method to plant their seeds.

7.5.2 AGRICULTURAL TOOLS
Although farmers in Twic use primitive tools to farm their land, they use a wider range of tools than farmers in Agok; 84\% \((n=141)\) farmers use a malouda; 23\% \((n=38)\) a hoe, 12\% \((n=20)\) an axe, 3\% \((n=5)\) a wheel barrow; and 3\% \((n=5)\) an ox. Five farmers reported using a panga/machete, spade, sickle, and watering can. The majority (54\%, \(n=91\)) also reported using other tools, but the type of tool used was not specified. Most farmers purchase tools in nearby local markets 56\% \((n=93)\). Others reported purchasing their tools in Wanjok 12\% \((n=7)\), Wau 11\% \((n=19)\), Kuajok 10\% \((n=16)\), another market in Warrap 3\% \((n=3)\), or from a market in Sudan 2\% \((n=3)\).
7.5.3 IRRIGATION AND WEEDING
As in Agok, the use of irrigation in farming in Twic is extremely limited, with a majority (78%, n=130) of farmers reporting that they do not irrigate their land. This means that they rely solely on rain as their method of crop irrigation. However – and in contrast to farmers in Agok – some farmers in Twic (37%, n=22) do irrigate their land. The average reported frequency of crop weeding among farmers in Twic is 1.53 times a month, with a maximum of 4 times/month.

7.6 SOURCES OF FARMERS’ SEEDS
The main sources of seeds for farmers in Twic County are seeds saved from previous seasons 49% (n=81), seeds purchased from the market 28% (n=47), or seeds donated by friends, family, or neighbors 16% (n=27). Few farmers use seeds obtained from other farmers 2% (n=4), or donated by an NGO or UN agency 5% (n=8).

Figure 39: SOURCES OF SEEDS – TWIC

7.6.1 TYPES OF SEEDS PURCHASED BY FARMERS IN PREVIOUS SIX MONTHS
Among the farmers who reported trying to buy seeds in the past six months, the majority 82% (n=137) had tried to purchase sorghum. Other seeds were maize 10% (n=17), millet 4% (n=7), okra 3% (n=5), other cereals or groundnuts 2% (n=3, respectively). Only 3% (n=5) of farmers said that they had not tried to purchase seeds in the last six months.

Of seeds purchased in the last six months, the majority of respondents 82% (n=137) checked that they tried to buy sorghum seeds. While only 10% (n=17) tried to buy maize seeds, 4% (n=7) millet seeds, respectively 2% (n=3) for groundnuts and other cereals. Among the boxes checked, but in significantly small quantities, some respondents tried to buy eggplant, sweet potatoes, beans, cowpeas and sesame.
7.6.2 MARKETS WHERE SEEDS ARE PURCHASED
A slight majority 53% (n=88) of farmers reported that they purchase seeds from a nearby market. Nine farmers (5%) purchased seeds in Kuajok, seven (4%) in Wau, four (3%) in Wanjok, and four (3%) in Aweil. Three (2%) farmers purchase their seeds in another market in Warrap State, and one buys seeds in Sudan. With 30% of farmers that did not try to purchase seeds.

Figure 40: MARKETS WHERE SEEDS WERE PURCHASED – TWIC

7.6.3 QUALITY OF SEEDS PURCHASED
Levels of satisfaction with seeds purchased were low among farmers, with only 23% (n=38) stating that they were satisfied. Of the remaining participants, reasons for dissatisfaction were that: the seeds were too expensive 28% (n=47), a lack of supply 14% (n=23), poor quality 2% (n=3), low germination rates 2% (n=3), delayed germination 1% (n=2), and poor customer service 1% (n=1).

Figure 41: REASONS FOR DISSATISFACTION WITH SEEDS PURCHASED – TWIC
7.6.4 SEED AND GRAIN SELECTION, PROTECTION, AND STORAGE

Farmers in Twic use different methods for choosing which seeds to save; while the majority 70% (n=57) save seeds that are healthy, 13% (n=11) choose seeds that are not mixed, others 11% (n=9) select seeds based on the size of the head seeds, and 6% (n=5) base their selection on the uniformity of the seeds.

Figure 42: METHODS FOR DETERMINING WHICH SEEDS TO SAVE – TWIC

The primary methods used to protect seeds are sun drying 60% (n=100), ash 22% (n=37), cow dung 10% (n=17), and smoking 8% (n=13).

Figure 43: METHODS FOR PROTECTING SEED AND GRAIN – TWIC

Farmers in Twic use several methods for storing seed and grain; 57% (n=96) use a local store; 20% (n=34) a gourd, 13% (n=22) seeds or grains in a basket, and 9% (n=15) use an improved store.
7.7 ACCESS TO AGRICULTURAL MARKETS

7.7.1 FARMERS’ METHODS OF TRANSPORTING CROPS TO MARKET
The average amount of time it takes farmers in Twic to walk from their homes to the market is 35 minutes. Among the 167 farmers surveyed in Twic, 57% (n=95) transport crops to the market by carrying them on their back. Some farmers transport their crops by bicycle 11% (n=18), a small percent use a vehicle 2% (n=3) and 1% (n=2) use an animal. Significantly, 29% (n=49) of farmers do not transport their crops to the market at all.

7.7.2 CHALLENGES TO FARMERS IN ACCESSING MARKETS
For farmers in Twic, long distances to markets 42% (n=70), high transportation costs 31% (n=19), and a lack of supply to cover demand 13% (n=22) are the primary constraints they face in entering in the market. Other farmers cited a lack of money to establish a presence in the market 10% (n=16) and the presence of too many traders selling similar products 7% (n=12) as the other chief constraints they face in entering the market.
When asked to identify the main difficulties to entering the market with produce, the nearly half of respondents 42% (n=70) felt that the market was too far away. Another factor listed was transportation cost, which 19% (n=31) stated it was too expensive. Another 13% (n=22) of the total respondents cited not having enough supply to cover demand as a challenge to entering the market. 7% of the farmer respondents (n=167) felt that there were too many traders with similar products.

### 7.7.3 CHALLENGES TO FARMERS TO COMPETE IN MARKET

With regard to their ability to compete with other farmers selling similar goods in the market, 50% (n=83) of farmers surveyed feel that they are unable to compete, while 37% (n=62) feel that they are able. The main reasons that farmers are unable to compete are that they have less quantity to sell 40% (n=33), their products are of a lower quality 34% (n=28), and they have less of a variety available 10% (n=8).

### 7.7.4 FARMER SATISFACTION WITH AGRICULTURAL TRADERS IN THE MARKET

When asked about the satisfaction with agricultural traders in the market, 23% (n=39) of farmers surveyed stated that they had never tried to use the service of a trader. Among those who have, 32% (n=54) were satisfied with agricultural traders in the market. Among the 45% of farmers who reported being dissatisfied, the main reasons cited was the lack of traders 13% (n=21), a lack of supply of goods 12% (n=20), the goods are of a poor quality 7% (n=11), and that the goods are not a good match with their needs 4% (n=6), 1% (n=1) cited lack of language skills, while 6% (n=9) did not know, didn’t reply or said other.

Figure 46: REASONS FOR FARMER DISATISFACTION WITH AGRICULTURAL TRADERS – TWIC
8 FINDINGS FOR CONSUMERS IN TWIC

8.1 DEMOGRAPHIC AND SOCIO-ECONOMIC INFORMATION FOR CONSUMERS
The majority of consumers 78% (n=29) surveyed were from South Sudan, and 16% (n=6) were from Darfur. One participant was from Sudan, and one from Uganda. Women comprised 54% (n=20) of the consumers surveyed and men, 46% (n=17). The average age of consumers is 31 years, the oldest is 60, and the youngest consumer interviewed was 21 years old.

Weekly incomes among consumers are low, with 38% (n=14) earning less than 50 SSP per week, 16% (n=6) earning between 50 and 100 SSP per week, and 30% (n=11) earning between 100 and 200 SSP per week. None of the 37 consumers surveyed reporting earning more than 500 SSP per week.

Table 3: WEEKLY CONSUMER INCOMES – TWIC

<table>
<thead>
<tr>
<th>WEEKLY CONSUMER INCOME IN TWIC</th>
<th>N=37</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDER 50 SSP</td>
<td>14</td>
<td>38%</td>
</tr>
<tr>
<td>50-100 SSP</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>100-200 SSP</td>
<td>11</td>
<td>30%</td>
</tr>
<tr>
<td>200-500 SSP</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>MORE THAN 500 SSP</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Among 37 consumers surveyed, a slight majority (54%, n=20) earn their income themselves, with 19% (n=7) receiving it from a parent, 11% (n=4) receiving weekly income from a spouse, 8% (n=3) from a sibling, and 8% (n=3) from another family member.

In terms of training, 35% of 37 consumers surveyed have received training in vegetable production, 30% in agronomic practices, 25% in business skills, 8% in language, and 3% in post-harvest handling. None had received training in literacy or numeracy. Eight consumers had not received any training in these subjects.
8.2 CONSUMER SATISFACTION WITH GOODS IN THE MARKET

In order to assess the attitudes of consumers to goods and services available in their local market, research was conducted within the market; during which time a total of 37 consumers were interviewed. People were asked about their consumption of and satisfaction with various goods and services, as well as the reasons why they were dissatisfied, if this was the case.

Table 4: CONSUMER DEMAND FOR MARKET PRODUCTS – TWIC

<table>
<thead>
<tr>
<th></th>
<th>HAVE BOUGHT</th>
<th>HAVE NEVER TRIED TO BUY/NEVER BOUGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=</td>
<td>%</td>
</tr>
<tr>
<td>WHEAT</td>
<td>25</td>
<td>68%</td>
</tr>
<tr>
<td>SORGHUM</td>
<td>33</td>
<td>89%</td>
</tr>
<tr>
<td>MILLET</td>
<td>18</td>
<td>49%</td>
</tr>
<tr>
<td>MAIZE</td>
<td>33</td>
<td>11%</td>
</tr>
<tr>
<td>RICE</td>
<td>35</td>
<td>95%</td>
</tr>
<tr>
<td>ROOTS (Cassava, Yams, Potatoes)</td>
<td>20</td>
<td>54%</td>
</tr>
<tr>
<td>PULSES (Groundnuts, Beans, Peas, Lentils)</td>
<td>34</td>
<td>92%</td>
</tr>
<tr>
<td>SESAME</td>
<td>32</td>
<td>86%</td>
</tr>
<tr>
<td>OKRA</td>
<td>29</td>
<td>78%</td>
</tr>
<tr>
<td>LOCAL VEGETABLES</td>
<td>31</td>
<td>84%</td>
</tr>
<tr>
<td>WILD PLANTS</td>
<td>24</td>
<td>65%</td>
</tr>
<tr>
<td>LOCAL FRUIT</td>
<td>26</td>
<td>69%</td>
</tr>
<tr>
<td>FLOUR</td>
<td>33</td>
<td>89%</td>
</tr>
<tr>
<td>LOCALLY MADE STRAW PRODUCTS (Bamboo, Straw, Reed)</td>
<td>31</td>
<td>84%</td>
</tr>
<tr>
<td>LOCALLY MADE TOOLS (Agricultural &amp; Other)</td>
<td>25</td>
<td>68%</td>
</tr>
<tr>
<td>MEAT (Goat or Cow)</td>
<td>32</td>
<td>86%</td>
</tr>
<tr>
<td>POULTRY (live)</td>
<td>29</td>
<td>78%</td>
</tr>
<tr>
<td>POULTRY (slaughtered)</td>
<td>24</td>
<td>65%</td>
</tr>
<tr>
<td>EGGS</td>
<td>25</td>
<td>68%</td>
</tr>
<tr>
<td>MILK (fresh)</td>
<td>30</td>
<td>81%</td>
</tr>
</tbody>
</table>

Correlated with the table above, for those that did or did not try to buy specific goods in the market, the table below gives reasons for dissatisfaction, if there were any. For example, of the 68% (n=25) who have bought wheat, 16% (n=6) were satisfied with the market, while 8% (n=3) cited a lack of supply, 30% (n=11) thought it too expensive, while another 14% cited poor quality for their dissatisfaction. In regards to Sorghum, 89% (n=33) had bought this item and 35% (n=13) were satisfied, while 46% (n=17) agreed it

19 Unlike farmers in Agok, farmers in Twic reported raising livestock as a source of livelihood thus consumer habits and preferences for livestock products (meat, eggs, milk) are included in Table 8 for Twic.
was too expensive, and 5% (n=2) said there was a lack of supply and 3% (n=1) did not feel this product was a match with their needs.

<table>
<thead>
<tr>
<th>Consumer Satisfaction/Dissatisfaction with Goods Purchased</th>
<th>Satisfied with market</th>
<th>Too Expensive</th>
<th>Poor Quality</th>
<th>Lack of Supply</th>
<th>Poor Customer Service/Do Not Trust Vendor</th>
<th>Product not a good match with needs</th>
<th>Do not know/Refuse to answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>6</td>
<td>16%</td>
<td>11</td>
<td>30%</td>
<td>5</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>Sorghum</td>
<td>13</td>
<td>35%</td>
<td>17</td>
<td>6%</td>
<td>2</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Millet</td>
<td>0</td>
<td>0%</td>
<td>8</td>
<td>22%</td>
<td>8</td>
<td>22%</td>
<td>1%</td>
</tr>
<tr>
<td>Maize</td>
<td>11</td>
<td>30%</td>
<td>12</td>
<td>32%</td>
<td>8</td>
<td>22%</td>
<td>1%</td>
</tr>
<tr>
<td>Rice</td>
<td>4</td>
<td>11%</td>
<td>18</td>
<td>49%</td>
<td>4</td>
<td>11%</td>
<td>1%</td>
</tr>
<tr>
<td>Roots (cassava, yams, potatoes)</td>
<td>3</td>
<td>8%</td>
<td>5</td>
<td>14%</td>
<td>1</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Pulses (groundnuts, beans, peas, lentils)</td>
<td>12</td>
<td>32%</td>
<td>15</td>
<td>41%</td>
<td>1</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Sesame</td>
<td>13</td>
<td>35%</td>
<td>11</td>
<td>30%</td>
<td>4</td>
<td>14%</td>
<td>3%</td>
</tr>
<tr>
<td>Okra</td>
<td>20</td>
<td>54%</td>
<td>3</td>
<td>8%</td>
<td>1</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Local vegetables</td>
<td>17</td>
<td>46%</td>
<td>7</td>
<td>19%</td>
<td>4</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Wild plants</td>
<td>15</td>
<td>41%</td>
<td>4</td>
<td>11%</td>
<td>2</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Local fruit</td>
<td>16</td>
<td>44%</td>
<td>5</td>
<td>14%</td>
<td>1</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Flour</td>
<td>2</td>
<td>5%</td>
<td>17</td>
<td>46%</td>
<td>11</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Locally made straw products (bamboo, straw, reed)</td>
<td>14</td>
<td>38%</td>
<td>14</td>
<td>38%</td>
<td>3</td>
<td>8%</td>
<td>1%</td>
</tr>
<tr>
<td>Locally made tools (agricultural &amp; other)</td>
<td>10</td>
<td>27%</td>
<td>8</td>
<td>22%</td>
<td>5</td>
<td>14%</td>
<td>1%</td>
</tr>
<tr>
<td>Meat (goat or cow)</td>
<td>15</td>
<td>41%</td>
<td>13</td>
<td>35%</td>
<td>2</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Poultry (live)</td>
<td>11</td>
<td>30%</td>
<td>9</td>
<td>24%</td>
<td>1</td>
<td>3%</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Table 5: CONSUMERS’ SATISFACTION WITH GOODS PURCHASED IN LOCAL MARKET - TWIC**
Consumers were also asked about their purchases of seeds in the market in the past six months, with a majority 89% (n=33) reporting that they had purchased sorghum seeds. Other additional seeds purchased in the past six months were maize 27% (n=10), rice 16% (n=6), other cereals 16% (n=6), beans 11% (n=4), groundnuts 11% (n=4), okra 11% (n=4), sesame 8% (n=3), tomato 8% (n=3), eggplant 8% (n=3), millet 5% (n=2), and “other vegetables” 5% (n=2). One farmer each had purchased spinach, tobacco, watermelon, and other fruit seeds, respectively, and one had not tried to purchase any seeds in the past six months. Consumer satisfaction with the seeds they had purchased was low, with only 19% (n=7) reporting that they were satisfied. Reasons for dissatisfaction were that they were too expensive 27% (n=10), a lack of supply 19% (n=7), and delayed germination 3% (n=1). Some consumers 30% (n=11) reported that they had never bought or tried to buy any seeds and thus were unable to answer questions about whether or not they were satisfied with their purchase.

### 8.3 CONSUMER SATISFACTION WITH SERVICES IN THE MARKET

The nearby (local) market is the main market used by the majority (68%) of 37 consumer respondents. Goods and services in the local market are limited, and 57% of respondents reported having to travel to a far away market to find goods and services that are not locally available. For these, 43% of people primarily travel to a nearby market, 24% to Juba and 19% to Wau. However, accessibility to these markets is limited due to the high costs of local means of transportation such as boda bodas, rickshaws, and hiaces. While 49% of consumers surveyed have used a boda boda, hiace or rickshaw, their most frequent complaint was that they are too expensive.

The majority of customers surveyed (60%) have used trader services to sell produce in the market. Although 17% reported being satisfied with these services, the two biggest reasons given for dissatisfaction are that there are not enough traders (23%) and that that traders lack an adequate supply of goods (20%).

Regarding specific services offered in the local market, 81% of consumers surveyed have used the service of a manual-grinding mill, and 84% have used the services of a mechanical grinding mill in the local market. The primary complaint about both types of mills is that they are too expensive. A majority (51%) has purchased cut fruit or vegetables, 68% have used the services of a blacksmith to make agricultural tools, and 68% have purchased products directly from a dairy farmer. These findings are an interesting contrast to Agok, where the majority of consumers had not ever used any of these services.
9 FINDINGS FOR TRADERS/BUSINESS OWNERS IN TWIC

The main market near Twic County is Turalei Market, which is approximately 834 km by road to Juba from the market. The main distributors of agricultural products in Turalei market are traders/business owners, who mainly import goods from Uganda or buy local from small-scale farmers. The majority of businesses operating in Turalei market are engaged in selling everyday items for consumption such as sugar, flour, salt, ginger, rice, powdered milk, maize. Three (n=5) business owners interviewed sold convenience items such as soap, while 1 owner expanded further and sold razors and batteries. Respondents did not explicitly note a shift in the origin of products in the market, but said that the most common sources of imported goods were Uganda with 1 owner saying onions were transported from Sudan.

Of the 5 businesses interviewed in Turalei, 3 respondents identified themselves as the main owner of the business, while 2 respondents said that they were employees of the business, one being a family member to the owner. The period of ownership and length of operation varied widely between three months and four years. All but one business respondent was able to identify and estimate weekly incomes. The business owner that could not had only been open for business for three months and therefore did not feel they could make an accurate estimate.

Slightly over half (n=3) of the respondents stated that their current income was sufficient to support them and their family. While the other two respondents stated that they had enough funds, but it wasn’t much, with one respondent further explaining that they use the money they generate from the business and sometimes also use the supplies that are intended for selling.

Of the two businesses that had employee respondents during the semi-structure interviews (SSI), one respondent identified as the owners family member and the other strictly as an employee of the owner. These respondents stated that the owner had 1 to 2 employees for each business; while one business owner stating that he ran the business with his son. In SSI’s with business owners in the market, 4 respondents expressed interest in expanding their business in the next one to two years, as they perceived the market would grow by then. The one respondent that said they did not plan to expand their business cited the market being too slow and the limitation of acquiring enough capital to do so. One owner also owned a welding business while another owner produces crops, but just for self-sufficiency and not for selling in the market.

9.1 GOODS SOLD IN MARKET BY TRADERS

According to traders, the best-selling item in Turalei market is sugar, which is acquired from Uganda. Other main goods mentioned were flour, rice and salt. Many of these goods are purchased by traders and transported via Lorry’s from Uganda and one trader citing onions coming from Sudan.
9.2 SOURCES OF MARKET GOODS SOLD
According to one business owner, the available agricultural goods in Turalei come from traders from Sudan and Uganda and then traders in Juba bring them to Turalei. However, agricultural goods such as groundnuts and hibiscus are locally sourced. The overall sentiment seemed to be that the majority of agricultural goods were transported by Lorry to the market, with Juba listed as the most common point of origin, outside of Uganda and Sudan as the official source of the goods.

9.3 SERVICES AVAILABLE IN THE MARKET
Traders and business owners alike perceive that the services offered in Turalei are limited, with infrastructure lacking. Based on respondents, the primary services lacking were a borehole for water distribution and toilet facilities, both of which require one to travel to the “bush” to fulfill these services. In addition, electricity was listed as a much-needed service in the market; one business owner commented that some shops have acquired generators. Another service lacking in the market was garbage collection. Further, one business owner commented on the lack of mills in the market.

9.4 CUSTOMER BASE FOR MARKET GOODS AND SERVICES
The majority of business owner/employee respondents cited repeat customers, with most customers coming twice a week or every two or three days to purchase goods. Two respondents preferred repeat customers versus new customers, while two did not have a preference. One owner preferred new customers, but did not elaborate.

9.5 CHALLENGES TO BUSINESS OWNERS/TRADERS IN ENTERING THE MARKET
All respondents stated that you must register with the Chamber of Commerce to operate in the market and most importantly for traders being that you need a trader’s license. According to one owner, whom was earning over 1000 SSP a week, the Commerce meets once yearly and licenses need to be renewed each year and you must register with local authorities to pay taxes. However, no other business owners mentioned these steps. One business owner confessed that he was not registered with the Chamber of Commerce, but knew that he should be; however, this highlights that it may not be strictly enforced. Of the other, non-bureaucratic challenges to entering the market are the expense of renting space and the increased cost of goods because they are mainly imported. The other challenge is in relation to security, with the government providing policing, but it is limited and only effectiveness when they are present.

According to those interviewed, no NGOs or government agencies are providing support for small businesses in the market. One respondent did cite the government’s support in terms of policing the market. None mentioned local business associations, other than the Chamber of Commerce, as some businesses did in Agok.

Three of the five businesses in the market identified that they had received no vocational training that relates to their business, while two respondents did not answer. Of those interviewed, most preferred to engage in business training, such as vocational training in line with business management and accounting and English language training. While two respondents expressed an interest in learning computer skills.
Of the five businesses interviewed, none had trained an intern or apprentice. One owner elaborated that he operated the shop with his son. Two respondents were employees of the shop and while the three owners preferred to hire family members. One owner elaborated that once they expanded, they would look into hiring employees.
10 CONCLUSIONS AND RECOMMENDATIONS

In recent years most organizations have identified markets as central to sustaining livelihoods. Thus, this deeper analysis of the markets in Warrap State, specifically Twic and Agok, is essential to understanding the necessary measures to take in order to increase the effectiveness of value chains to help populations reach self-sufficiency. Intervention needs to be methodical, as changes to the system can weaken and inadvertently damage livelihoods and prolong the period of recovery; and even worse, cause dependency on outside donors. Thus, partnerships and programs should be created based on evidence-based data of the current market systems and value chains.

Because Agok and Twic are close in proximity to Abyei Administrative Area, their areas have received large populations of returnees and IDPs. Many incoming populations are extremely vulnerable and lack adequate materials and means to restart their lives effectively. This puts added pressure on these areas to increase production and services to assist in relocation, many families are at capacity in their means to support additional family/community members that return. This paired with the blockage of traders coming from Sudan due to the road closure, has resulted in a lack of goods available. Food security has remained a fear. The majority of respondents in both areas identified in qualitative interviews that their current income was not sufficient to support them and their family.

Up until now, the main objective of emergency relief has been pursued, GOAL seeks to go a step further and shift their focus to address the loss of agricultural assets and increased density of population, to provide a more long-term solution. Carrying out these objectives, GOAL funded market analysis highlights the lack of variety in crops produced and offered by local traders. This is worrisome in that farmers are putting their capital into one or two main crops, which can have devastating impacts, as the majorities rely on natural rainfall for crop maturation. In addition, crop output is not able to meet crop demand. The market analysis highlights the lack of fruits, namely bananas, pineapple, and mangoes in the market. When these items are brought in from distant traders from other areas, these items are prohibitively expensive. In regards to vegetables, sweet potatoes and yams were identified as scarce in the markets, with only small numbers available. In Agok, people travel to Abotoh, Wau and Aweil for such items, as well as kudra, eggplant, tomatoes and cabbage when they are not available locally. These trips are an additional expensive for the already financially squeezed population and this option is not available to the majority of consumers, as it is merely too expensive.
10.1 GENERAL RECOMMENDATIONS

Following are some general recommendations based on survey respondents, FGDs and SSIs as well as consultants, in regards to market chain values. Each value chain can have impacts on various alternate value chains and the system is fluid in a circular nature rather than linear, in that inputs can affect many systems. These recommendations are further broken down into Agok and Twic specific recommendations.

- **Innovate seed supplier chain, paying specific attention to seed distribution techniques.**
  In regards to NGO distribution of emergency relief such as seed varieties, it is counterproductive to strengthening current or future value chains within the market system context. GOALS shift from emergency intervention to development programming to increase food security and strengthen market value chains in the long-term, should adopt a different programmatic approach to achieve said initiatives. The traditional humanitarian and aid development approaches of in-kind distribution should be innovated to include a more symbiotic relationship with value chain actors to ensure self-sufficiency and livelihood for many years to come and not solely immediate relief. For example, seed distribution can be innovated by issuing vouchers and local currency. These techniques can boost the economy by strengthening market linkages between small-scale producers and farmers. These vouchers and monetary advances can be redeemed by seed suppliers and traders and will stimulate the local economy and strengthen many market linkages in the process. For example, in Agok the main crop produced was sorghum and WFP donated sorghum is also widely circulated in Aniet market. According to FGD participants in Agok, it dramatically lowers the price that farmers can obtain for sorghum. This innovative method would allow local goods to be bought and sold, instead of using imported goods that drive market prices down. Where food needs to be given as emergency relief, it should be purchased in local market when possible.

- **Strengthen farmer value chain, paying specific attention to tool distribution and Farmer’s Associations.**
  As mentioned above, the same innovative technique of utilizing vouchers and local currency transfers can be used in the distribution of tools for farmers’ use. Instead of giving specific tools, allow farmers the chose to choose which tools they prefer, by buying them individually from regional or distant traders. Farmers are the major value chain actors in both Agok and Twic, this value chain is crucial to strengthen, as it has the potential to strengthen other linkages in the market value chain. The Farmer’s Association is a great arena to facilitate workshops on farming techniques and knowledge. This cooperative environment can increase yields tremendously by allowing for shared responsibility of farming tasks. In addition, many farmers in the FGD for both areas, listed other main sources of income in addition to farmer, thus these areas can be strengthened in the spare time a Farmer’s Association allows its members.

- **Strengthen Trader value chain, paying specific attention to regional market traders who receive goods from East Africa.**
  Both Agok and Twic traders have previously relied on goods transported from Sudan and in recent years have shifted their reliance to East African goods and markets. With a lack of road infrastructure in South Sudan, travel is limited, thus making trading between long distances more difficult. While agricultural industries are still young and expanding based on years of disruption, it is important to not underestimate the need for long-distance and regional trade links. If the distance traveled is monetarily beneficial, more traders may increase their routes to regional markets in South Sudan, such as Wau, Aweil, and Juba. This value chain can be strengthened by
the increasing amount of monetary capital flowing in Agok and Twic through innovative aid
distribution techniques listed above; thus giving local consumers the means to buy goods from
traders. With the increase in purchasing power by consumers, the value chain linkage between
regional and local traders can be strengthened, in addition to strengthening the value chain link
between traders and consumers. In addition, this will allow an increasing frequent supply of goods
needed by local market traders to in turn sell to local consumers, thus strengthening the linkage
between distant traders and local traders/business owners.

The value chains are all linked in one way or another and adding/changing variables to each value chain will
affect other value chain actors. By focusing on the value chains: seed supplier, small-scale subsistence
producers, farmers and distant traders the other value chains will simultaneously be affected, with the goal
of strengthening these linkages in a positive manner. Monetary inputs will allow farmers and small-scale
producers to inject capital into the market chain, thereby strengthening linkages with local and distant
traders who can then increase the variety of goods on the market for consumers and business owners alike
until crop output is able to sustain local community demand.

10.1.1 AGOK SPECIFIC RECOMMENDATIONS

- Provide trainings for farmer/small-scale producer

Farmers Groups and Associations are well under way in Agok, as 100% of FGD participants
responded that they were members of the GOAL Farmer group. This forum can be utilized to
share knowledge and create dialogue for participant questions. Among the 81 participants,
agriculture was the main source of livelihood for 38.3%. While another 34.6% cited unskilled
labor, this group has the potential to increase their agricultural knowledge and skills and thus,
increase their self-sufficiency and potentially decrease food insecurity in the region. Some areas
that could be considered are:

- Methods of Storing Seeds and Grains
- Feasibility of irrigation in Agok/methods/equipment
- Methods of Drying Seeds
- Knowledge of appropriate seed varietals; farming methods
- Offer household savings training

- Assist in logistics of acquiring a Water Distribution service in Aniet Market

- Assist in brainstorming possible solutions to lower transportation expenses
  - Example: Form a cooperative and have specific days that many traders/farmers will travel
to the market, in order to share expenses and lower the individual financial burden.

- Offer trainings for business owners in business development
10.1.2 TWIC SPECIFIC RECOMMENDATIONS

- Increase effort to attract GOAL participants
  Of the 129 farmer respondents, 35 are currently GOAL beneficiaries, with 19% of (n=35) participating in a GOAL Farmer Association and 11% participating in a GOAL vegetable micro-garden group. Of the total respondents (n=129), 63% were involved in a business group, farmer cooperative or trade union. This highlights the willingness to participate in such groups. As recommended for Agok above, Farmer’s Associations can be utilized to impart knowledge and skill training, as well as provide a forum for discussion in order to increase the systems efficiency. Some areas of specific discussion that may be beneficial to farmers in Twic are:
  - Knowledge of appropriate seed varieties and diversification incentives.
  - Discuss the benefits, if there are any, to farmers that irrigate in the area versus farmers that do not. Based on the market analysis, 78% of (n=129) farmers do not irrigate their land, while 22% do irrigate.
  - As 60% of farmers interviewed were women, providing household saving trainings may aid women in creating self-sufficiency for themselves and their family.
  - Discuss the benefits of various seed and grain method storage.

- Increase participant turn-out in GOAL vegetable micro-garden
  - Of the 129 participants interviewed, 50% feel that they cannot compete in the local market, with 40% of them citing lack of diversity in goods as their main reason for feeling inadequate to compete.

- Assist in logistics of acquiring a Water Distribution services and Restroom Services in Turalei Market

- Assist in brainstorming possible solutions to lower transportation expenses
11 APPENDIX

11.1 APPENDIX A: QUANTITATIVE CONSUMER SURVEY

Survey Name: GOAL Consumer Demand  
No of Questions: 69

1: Today's Date (date)  
Data Field Name: date

2: Enumerator Code (number)  
Data Field Name: en_code

3: Consumer ID (number)  
Data Field Name: consumerid

4: Hi, my name is _____ and I am working with GOAL. We are undertaking a market assessment to find out more about the market and livelihoods here in Warrap. (multi)  
Data Field Name: intro1  
Possible responses:
- Yes
- Ok

5: This information will help GOAL implement livelihood programs for people in your community. (multi)  
Data Field Name: intro3  
Possible responses:
- Yes
- Ok

6: We're going to ask you some questions about the market and/or some items you may have tried here in Warrap. (multi)  
Data Field Name: intro4  
Possible responses:
- Yes
- Ok

7: Your participation is voluntary and completely confidential and you do not have to answer any questions that you do not want to answer. (multi)  
Data Field Name: intro5  
Possible responses:
- Yes
- Ok

8: You may end this interview at any time you want. No one will give you money or gifts to respond to these questions. (multi)  
Data Field Name: intro6  
Possible responses:
- Yes
- Ok

9: This information will help improve GOAL's ability to aid the community in this area. (multi)  
Data Field Name: intro7  
Possible responses:
- Yes
- Ok

10: We would greatly appreciate your help in responding to this survey. It will take about 30 minutes to complete. (multi)  
Data Field Name: intro8  
Possible responses:
- Yes
- Ok

11: Would you be willing to participate? (multi)
Data Field Name: informedconsent
Possible responses:
- Yes
- No (skip to end)

12: Gender [Enumerator: You complete this question for the person you are interviewing. Don’t ask for a person’s gender.] (multi)
Data Field Name: gender
Possible responses:
- Female
- Male

13: How old are you? [approximate if not exact] (number)
Data Field Name: age

14: Where are you from? (multi)
Data Field Name: origin
Possible responses:
- South Sudan
- North Sudan
- Darfur
- Kenya
- Uganda
- Eritrea
- Ethiopia
- Somalia
- Other
- Central African Republic (CAR)
- Democratic Republic of Congo (DRC)
- Don’t Know
- Refuse to Answer

15: What is your weekly income? (If not able to say exactly, ask for an estimate) (multi)
Data Field Name: weeklyincome
Possible responses:
- Under 50 SSP
- 50-100 SSP
- 100-200 SSP
- 200-500 SSP
- More than 500 SSP
- Cannot recall/estimate

16: Do you earn this income yourself? (multi)
Data Field Name: incomeearn
Possible responses:
- Yes
- No – receive from spouse
- No – receive from parent
- No – receive from sibling
- No – receive from other family member
- No – receive from friend
- No – receive from NGO
- No – receive from other

17: If other, Please specify? (text)
Data Field Name: incomeother

18: I will list various goods, and I would like you to tell me if you have been satisfied or dissatisfied with the availability of each item in the last year. If you have been dissatisfied, I would like to know why. (multi)
Data Field Name: explanation
Possible responses:
- Ok
- Fine

19: Have you ever bought or tried to buy wheat? If so, have you been satisfied or dissatisfied with what is here in the market? (multi)
Data Field Name: Wheat
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

20: Sorghum (multi)
Data Field Name: Sorghum
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

21:Millet (multi)
Data Field Name : Millet
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

22:Meat (goat or cow) (multi)
Data Field Name : meatgoatcow
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

23:Maize (multi)
Data Field Name : Maize
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

24:Butter (multi)
Data Field Name : Butter
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

25:Rice (multi)
Data Field Name : Rice
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

26:Roots (cassava, yams, potatoes) (multi)
Data Field Name : Roots
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer
27: Pulses (groundnuts, beans, peas, lentils) (multi)
Data Field Name: Pulses
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

28: Okra (multi)
Data Field Name: Okra
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

29: Oil (multi)
Data Field Name: Oil
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

30: Fruit (local) (multi)
Data Field Name: FruitLocal
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

31: Fruit (imported) (multi)
Data Field Name: FruitImport
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

32: Vegetables (local) (multi)
Data Field Name: VegLocal
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

33: Sugar (multi)
Data Field Name: Sugar
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

34: Yogurt (multi)
Data Field Name: yogurt
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

35: Juice (fresh) (multi)
Data Field Name: juicefresh
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

36: Poultry (live) (multi)
Data Field Name: poultrylive
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

37: Eggs (multi)
Data Field Name: eggs
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

38: Sesame (multi)
Data Field Name: Sesame
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

39: Poultry (slaughtered) (multi)
Data Field Name: poultryslaughtered
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

40: Wild plants (multi)
Data Field Name: Wild_plants
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

41: Milk (fresh) (multi)
Data Field Name: milkfresh
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

42: Locally-made Straw Products (bamboo, straw, reed) (multi)
Data Field Name: strawproducts
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

43: Vegetables (imported) (multi)
Data Field Name: vegimport
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality

44: Fish (smoked) (multi)
Data Field Name: Fish_smoked
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

45: Fish (Dried) (multi)
Data Field Name: Fish_Dried
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

46: Locally made Tools (Agricultural and Other) (multi)
Data Field Name: tools
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
47: Flour (multi)
Data Field Name: flour
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

48: In the past 6 months, which of the following seeds have you tried to buy? (multi)
Data Field Name: seeds
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Tomatoe
- Okra
- Eggplant
- Spinach
- Kale
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Other cash crop
- Other
- Did not try to buy
- Refuse to answer

49: Were you satisfied with the seeds you purchased? (multi)
Data Field Name: Satisfied_with_seeds
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: lack of supply
- DS: too expensive
- DS: poor quality
- DS: low germination rate
- DS: delayed germination
- DS: poor customer service
- DS: product not good match with needs
- DS: Do Not Trust Vendor
- Don’t Know
- Refuse to Answer

50: I will list various services, and I would like you to tell me if on average, you have been satisfied or dissatisfied with each service in the past year. If you have been dissatisfied, I would like to know why. (multi)
Data Field Name: serviceinstructions
Possible responses:
- Ok
- Okay

51: Have you ever used or tried to use a boda-boda or rickshaw to transport your products to the market? If yes, have you been satisfied or dissatisfied with their services? (multi)
Data Field Name: boda_or_rickshaw
Possible responses:
- Never used or tried to use
- Satisfied with market
- DS: not enough bodas
- DS: too expensive
- DS: unsafe driving
- DS: lack of punctuality
- DS: exhaust burns
- Don’t know
- Refuse to Answer

52: Have you ever used or tried to use a hiace or rickshaw to transport your
produce to the market? If yes, have you been satisfied or dissatisfied with their services? (multi)
Data Field Name: hiace_or_rickshaw
Possible responses:
- Never used or tried to use
- Satisfied with market
- DS: bad conductor/no change
- DS: not enough hiaces
- DS: too expensive
- DS: unsafe driving
- DS: lack of punctuality
- DS: overcrowded
- DS: unclean interior
- Don’t know
- Refuse to Answer

55: Have you ever used or tried to use the services of a trader to sell your produce in the market? If so, how satisfied were you with the service? (multi)
Data Field Name: Traders
Possible responses:
- Never used or tried to use services
- Satisfied
- DS: not enough traders
- DS: lack of supply of goods
- DS: supply of goods inconsistent
- DS: poor quality of goods
- DS: goods not good match with needs
- DS: traders unprofessional
- DS: bad hygiene of food sales
- DS: lack of language skills
- DS: other
- Don’t know
- Refuse to Answer

56: Have you ever bought or tried to buy cut fruit or vegetables from someone in the market? If yes, how satisfied have you been with the service? (multi)
Data Field Name: fruitvegservice
Possible responses:
- Never bought or tried to buy
- Satisfied with market
- DS: not enough people selling
- DS: too expensive
- DS: bad customer service
- DS: unclean/poor hygiene
- DS: poor quality fruit/veg
- DS: not enough variety fruit/veg
- DS: lack of language skills
- Don’t know
- Refuse to Answer

57: Have you ever used the services of a blacksmith to make agricultural tools? If so, have you been satisfied or dissatisfied with their service/product? (multi)
Data Field Name: blacksmith
Possible responses:
- Never used or tried to use services
- Satisfied with market
- DS: not enough service providers
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: service not good match with needs
- Don’t know
- Refuse to Answer

58: Have you ever purchased products directly from a dairy farmer? If so, have you been satisfied or dissatisfied with their service? (multi)
Data Field Name: dairy
Possible responses:
- Never used or tried to use services
- Satisfied with market
- DS: not enough service providers
- DS: too expensive
- DS: poor quality
- DS: poor customer service
- DS: service not good match with needs
- Don’t know
- Refuse to Answer

60: Are there any goods or services that you cannot get here and have to travel to a far away market to obtain? (multi)
Data Field Name: travelgoodyn
Possible responses:
- Yes
- No
- Refuse to Answer
- Don’t Know

61: Type good or service (text)
Data Field Name: travelgoodtype

62: Where do you travel to get this? (multi)
Data Field Name: travelgoodwhere
Possible responses:
- Nearby market
- Wanjok
- Aweil
- Wau
- Kwajok
- Darfur
- Juba
- Another market within Warrap
- Another market in NBG
- Another market in WBG
- Other city in South Sudan
- Market in North Sudan
- Kampala
- Nairobi
- East Africa- other
- Other
- Don’t know
- Refuse to Answer

63: Specify Other (text)
Data Field Name: othertravelgoodwhere

64: Another good or service? (multi)
Data Field Name: travelgoods2
Possible responses:
- Yes
- No
- Don’t Know
- Refuse to Answer
65: Type good or service (text)
Data Field Name: travelgood2type

66: Where do you travel to get this? (multi)
Data Field Name: travelgood2where
Possible responses:
- Nearby market
- Wanjok
- Aweil
- Wau
- Kwajok
- Darfur
- Juba
- Another market within Warrap
- Another market in NBG
- Another market in WBG
- Other city in South Sudan
- Market in North Sudan
- Kampala
- Nairobi
- East Africa- other
- Other
- Don’t know
- Refuse to Answer

67: If Other Specify (text)
Data Field Name: othertravelgood2where

68: Have you received training in the following areas: (multi)
Data Field Name: Received_Training
Possible responses:
- Agronomic practices
- Vegetable production
- Post-harvest handling
- Business skills
- Literacy
- Numeracy
- Language
- None of the above

69: That is all the questions I have. Thank you for your time. (multi)
Data Field Name: thankyou
Possible responses:
- Ok
- Fine
11.2 APPENDIX B: QUALITATIVE FARMER SURVEY

Survey Name: GOAL Farmer Survey
No of Questions: 82
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1: Today's Date. (date)
Data Field Name: datetoday

2: Hi my name is ______ and I am administering a survey that will inform GOAL programming in this area. I will ask you about your agricultural practices what crops you produce and where you buy seeds and tools. Any answers you provide will be confidential and only used for the purpose of improving GOAL's ability to aid the community in this area. You are free to end this survey anytime you wish. Your honest and candid participation, however, will be greatly appreciated. (label)

3: Are you willing to participate? (multi)
Data Field Name: participate
Possible responses:
- Yes
- No

4: Location (multi)
Data Field Name: loc1
Possible responses:
- Agok
- Agok

5: What Payam are you in? (multi)
Data Field Name: loc2
Possible responses:
- Payam 1
- Payam 2
- Payam 3
- Payam 4
- Payam 5
- Payam 6
- Payam 7

6: Enumerator ID (number)
Data Field Name: encode

7: Enumerator: Please enter the gender of the respondent. (multi)
Data Field Name: gender
Possible responses:
- Male
- Female

8: Are you a beneficiary of GOAL's activities? If yes, please specify which activity. (multi)
Data Field Name: Goal_beneficiary
Possible responses:
- Not a beneficiary
- Farmers Association
- Vegetable and Micro-gardening group
- REFLECT Circle

9: Beneficiary ID. (number)
Data Field Name: ben_ID

10: Are you head of your household? (multi)
Data Field Name: HoH
Possible responses:
- Yes
- No

11: How old are you? (number)
Data Field Name: age

12: What is the highest level of education that you've obtained? (multi)
Data Field Name: education
Possible responses:
13: How many people live in this household? (number)
Data Field Name: number_household

14: How many adult women (above 18) live in this household? (number)
Data Field Name: women_household

15: How many adult men (above 18) live in this household? (number)
Data Field Name: men_household

16: How many girls aged 6-17 live in this household? (number)
Data Field Name: girls_household

17: How many boys aged 6-17 live in this household? (number)
Data Field Name: boys_household

18: How many girls 5 and under live in this household? (number)
Data Field Name: U5girls_household

19: How many boys 5 and under live in this household? (number)
Data Field Name: U5boys_household

20: What is your residency status? (multi)
Data Field Name: residency_status
Possible responses:
- Host/local resident
- IDP
- Returnee
- Returnee living in a camp

21: Is there a person with a severe illness or physical handicap living in your household? (multi)
Data Field Name: handicap_household

22: Does your household use land for farming? (multi)
Data Field Name: farming
Possible responses:
- Yes
- No

23: In feddans, how much land does your household have access to for farming? (number)
Data Field Name: amount_farmland

24: What tools do you use to farm the land? (multi)
Data Field Name: farm_tools
Possible responses:
- Malouda
- Adjerai
- Axe
- Panga/machete
- Sickle
- Ox plough
- Mak mak
- Spade
- Rake
- Watering can
- Wheel barrow
- Knife

25: Do you use other tools? (multi)
Data Field Name: other_tools
Possible responses:
- Yes
- No

26: If yes, please specify. (text)
Data Field Name: specothertools

27: Where do you buy tools? (multi)
Data Field Name: buy_tools
Possible responses:
- Nearby market
- Wanjok
- Aweil
- Wau
- Darfur
- Kwajok
- Juba
- Another market in Warrap
- Another market in NBG
- Another market in WBG
- Market in North Sudan
- Kampala
- Nairobi
- East Africa other
- Other
- Don’t know
- Refuse to answer

28: What type of technology does your household use to farm the land? (multi)
Data Field Name: farm_tech
Possible responses:
- Manual labor
- Animal traction
- Machine power
- Other

29: If other, please specify? (text)
Data Field Name: othertechnology

30: What is your planting method? (multi)
Data Field Name: planting_method
Possible responses:
- Row
- Scatter
- Both

31: How often do you weed your crops? (number)
Data Field Name: weed_crops

32: Did you plant land in the previous season? (multi)
Data Field Name: previousseason_plant
Possible responses:
- Yes
- No

33: In feddans, how much land did you plant in the previous season? (number)
Data Field Name: landplanted_lastseason

34: How many harvests do you typically have in a year? (number)
Data Field Name: harvests_peryear

35: How many months after harvest does the food that you harvested typically last? (number)
Data Field Name: foodfromharvest

36: Do you irrigate (water) your land? (multi)
Data Field Name: irrigate_land
Possible responses:
- Yes
- No

37: How do you store your seed or grain? (multi)
Data Field Name: store_seed
Possible responses:
- Local Store
- Basket
- Improved Store
- Gourd

38: How do you obtain your seeds? (multi)
Data Field Name: obtain_seeds
Possible responses:
- Saved seeds from previous seasons
- Purchase seeds from market
- Seeds are donated by friend family or neighbors
- Other farmers
- Seeds are donated by an NGO or UN agency

39: If you save seeds, how do you choose which seeds to save? (multi)
Data Field Name: chooseseeds_save
Possible responses:
- Uniformity of seeds
- No mixing
- Healthy seeds
- Size of head
- Other
40: What is your primary method of protecting seeds? (multi)
Data Field Name: Seeds_protect
Possible responses:
- Sun dry
- Ash
- Cow dung
- Smoking

41: In the past 6 months, which of the following seeds have you tried to buy? (multi)
Data Field Name: boughtseeds6months
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cow peas
- Sesame
- Ground nuts
- Pumpkin
- Other vegetable
- Tobacco
- Water melon
- Other fruits
- Other cash crop
- Kale
- Spinach
- Egg plant
- Okra <<21>
- Never tried to buy in the last 6 months <<22>

42: Were you satisfied with the seeds you purchased? (multi)
Data Field Name: satisfyseeds
Possible responses:
- Never tried to buy
- Satisfied with the seeds
- DS:Lack of supply
- DS:Too expensive
- DS::Poor quality

43: If you purchase seeds, from which market do you mainly buy seeds from? (multi)
Data Field Name: buyseeds
Possible responses:
- Never tried to buy
- Nearby market
- Wanjok
- Aweil
- Wau
- Darfur
- Kwajok
- Juba
- Another market in Warrap
- Another market in NBG
- Another market in WBG
- Market in North Sudan
- Kampala
- Nairobi
- East Africa other
- Other
- Don’t know
- Refuse to answer

44: How do you bring your crops to market? (multi)
Data Field Name: crops_to_market
Possible responses:
- Carry them on back
- Transport by bicycle
- Transport using an animal
- Transport by vehicle
- Do not transport goods to market

45: How many minutes does it take you to walk from home to the market? (number)
Data Field Name: time_market

46: Do you have any difficulties entering the market with your produce? If yes, why? (multi)
Data Field Name: marketdifficulties
Possible responses:
- High transportation cost
- Market is far away
- Not enough supply to cover demand
- Too many traders with similar products
- Low quality of goods
- Lack of money to establish
- Not experienced any problems
- Don’t know
- Refuse to answer

47: Have you experienced other difficulties? (multi)
Data Field Name: other_diff
Possible responses:
- Yes
- No

48: If yes, please specify? (text)
Data Field Name: othrproblems

49: Are you a member of a business group, farmer cooperative or trade union in the market? (multi)
Data Field Name: groupmember
Possible responses:
- Yes
- No
- Refuse to answer
- Don’t know

50: If yes, which of the following entities are you a member of? (multi)
Data Field Name: membership
Possible responses:
- Farmer Association
- VSLA group
- Vegetable group
- Trade Union
- Other

51: If other, please specify? (text)
Data Field Name: membother

52: How satisfied are you with the agricultural traders in the market? (multi)
Data Field Name: trader_satisfaction

Possible responses:
- Never used or tried to use the service
- Satisfied
- DS:not enough traders
- DS:lack of supply of goods
- DS:supply of goods inconsistent
- DS:Poor quality of goods
- DS:goods not good match with needs
- DS:traders unprofessional
- DS:bad hygiene of food sale
- DS:lack of language skills
- DS:other
- Don’t know
- Refuse to answer

53: Do you feel you are able to compete with the other farmers selling similar goods in the market? (multi)
Data Field Name: competitive
Possible responses:
- Yes able to compete
- No not able to compete
- Refuse to answer
- Don’t know

54: If not, what are the main reasons why you are unable to compete? (select all that apply) (multi)
Data Field Name: uncompetitivereason
Possible responses:
- Less quantity
- Less quality
- Less variety
- Not good match with needs
- Customer service
- Other
- Don’t know
- Refuse to answer

55: What was the main crop cultivated by your household in the past season? (multi)
Data Field Name: maincrop
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Kale
- Spinach
- Egg plant
- Okra
- Other cash crop
- Other
- Did not produce

56: How many kgs of this crop did you produce in the previous season? (number)
Data Field Name: quantity_maincrop

57: How much of what you produced do you consume (in kgs)? (number)
Data Field Name: consume_amount

58: How much of what you produced did you sell/exchange (in kgs)? (number)
Data Field Name: fourthcrop_sell

59: What was the 2nd most common crop that you produced last season? (multi)
Data Field Name: secondcrop_produce
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Kale
- Did not produce

60: How many kgs of this crop did you produce in the last season? (number)
Data Field Name: kgs_secondcrop

61: How much of what you produced did you consume (in kgs)? (number)
Data Field Name: consume_secondcrop

62: How much of what you produced did you sell/exchange (in kgs)? (number)
Data Field Name: sell_secondcrop

63: What was the third most common crop that you produced in the previous season? (multi)
Data Field Name: thirdcrop_produce
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Kale
- Did not produce
- Spinach
- Egg plant
- Okra
- Other cash crop
- Other
- Did not produce

64: How many kgs of this crop did you produce? (number)
Data Field Name: thirdcrop_amount

65: How much of what you produced did you consume (in kgs)? (number)
Data Field Name: thirdcrop_consume

66: How much of what you produced did you sell/exchange (in kgs)? (number)
Data Field Name: thirdcrop_sell

67: What was the 4th most common crop cultivated by your household in the previous season? (multi)
Data Field Name: fourthcrop_produce
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Kale
- Spinach
- Egg plant
- Okra
- Other cash crop
- Other
- Did not produce

68: How many kgs of this crop did you produce? (number)
Data Field Name: fourthcrop_amount

69: How much of what you produced did you consume (in kgs)? (number)
Data Field Name: fourthcrop_consume

70: How much of what you produced did you sell/exchange? (number)
Data Field Name: fourthcropsell

71: What was the 5th most common crop that you produced in the previous season? (multi)
Data Field Name: fifthcrop_produce
Possible responses:
- Sorghum
- Millet
- Maize
- Rice
- Other cereals
- Cassava
- Sweet potatoes
- Beans
- Cowpeas
- Sesame
- Groundnuts
- Pumpkin
- Other Vegetables
- Tobacco
- Watermelon
- Other fruit
- Kale
- Spinach
- Egg plant
- Okra
- Other cash crop
- Other
- Did not produce

72: How many kgs of this crop did you produce? (number)
Data Field Name: fifthcrop_amount
73: How much of what you produced did you consume (in kgs)? (number)
Data Field Name: fifthcrop_consume

74: How much of what you produced did you sell/exchange (in kgs)? (number)
Data Field Name: fifthcrop_sell

75: How many women in this household are currently involved in the weeding/cultivating/harvesting of farm land? (number)
Data Field Name: women_farming

76: How many men in this household are currently involved in the weeding/cultivating/harvesting of farm land? (number)
Data Field Name: men_farming

77: How many children (under 18) in this household are involved in the weeding/cultivation/harvesting of farm land? (number)
Data Field Name: children_farming

78: What was your main source of livelihood in the past year? (multi)
Data Field Name: mainlivelihood
Possible responses:
- Livestock rearing
- Agricultural production
- Fishing
- Hunting and gathering
- Petty trade (brewing small business)
- Collection of natural resources (firewood grass)
- Unskilled labor
- Produced/sold handicrafts
- Skilled labor (artisan)
- Employee work (NGO government UN)
- Cash Transfer
- Food Aid Assistance
- Beekeeping
- Other

79: If other, please specify? (text)
Data Field Name: other_livelihood

80: Did you have any other sources of livelihood in the past year? (check all that apply) (multi)
Data Field Name: otherlivelihood
Possible responses:
- Livestock rearing
- Agricultural production
- Fishing
- Hunting and gathering
- Petty trade (brewing small business)
- Collection of natural resources (firewood grass)
- Unskilled labor
- Produced/sold handicrafts
- Skilled labor (artisan)
- Employee work (NGO government UN)
- Cash Transfer
- Food Aid Assistance
- Beekeeping
- Other

81: If other, please specify? (text)
Data Field Name: other_livelihood_sources

82: Thank you for answering these questions, it is much appreciated. (multi)
Data Field Name: end
Possible responses:
- You’re welcome
- Goodbye