Research Terms of Reference

South Sudan Joint Market Monitoring Initiative (SSD-JMMI)

SSD1907a

South Sudan

09/06/2025
V3

REACH Informing more effective humanitarian action

1. Executive Summary

Country of intervention	South Sudan					
Type of Emergency	□	Natural disaster	X	Conflict		
Type of Crisis	□	Sudden onset	□	Slow onset	X	Protracted
Mandating Body/ Agency	CWG, South Sudan Cash Working Group (CWG)					
Project Code	32BFG					
Overall Research Timeframe	01/08/2019 to 31/03/2026 (monthly)					

Research Timeframe	1. Start collect data: 1st of every month	5. Preliminary presentation: _ _/_ _/_ _ _ _
	2. Data collected: 7th of every month	6. Outputs sent for validation: 21st of every month
	3. Data analysed: 14th of every month	7. Outputs published: 28th of every month
	4. Data sent for internal validation: 15th of every month	8. Final presentation: ----------

Number of assessments	□	Single assessment (one cycle)
	X	Multi assessment (more than one cycle): monthly cycles

	Milestone	**Deadline**
Humanitarian milestones	□ Donor plan/strategy	_ _/_ _/_ _ _ _
	X Inter-cluster plan/strategy	CWG; monthly basis
	X Cluster plan/strategy	Food Security & NFI/Shelter cluster; ad hoc
	□ NGO platform plan/strategy	_ _/_ _/_ _ _ _
	□ Other (Specify):	_ _/_ _/_ _ _ _

Audience Type & Dissemination	**Audience type**	**Dissemination**
	X Strategic X Programmatic □ Operational □ [Other, Specify]	X General Product Mailing (e.g. mail to NGO consortium; HCT participants; Donors) X Cluster Mailing (FSL, Education, Shelter and WASH) and presentation of findings at next cluster meeting X Presentation of findings (e.g. at HCT meeting; Cluster meeting, CWG, NAWG) X Website Dissemination (Relief Web & REACH

			X Online dashboard already running and markets data will feed into the JMMI API being developed	
Detailed dissemination plan required	□	Yes	X	No
General Objective	Inform the Cash Working Group (CWG) on availability and price trends of basic commodities to guide market-based responses in South Sudan			
Specific Objective(s)	• Understand the market environment in South Sudan • Track prices and availability of basic commodities on a monthly basis • Assess impact of conflict, seasonality and inflation on market systems • Guide and inform the market component of the INT (Integrated Needs Tracking System)[1]			
Research Questions	• What are the prices of basic food, non-food and livestock commodities in South Sudan? • What are the geographical price variations and trends over time? • What are the costs associated with the South Sudan-specific MSSMEB (Multi-Sector Survival Minimum Expenditure Basket)?[2] • What are the prices of basic services (milling and casual labor)? • What are traders stock levels? Are traders able to resupply? • Which challenges do traders face when restocking? • How (from where and using which modes of transport) are South Sudanese markets supplied and how does this change seasonally? • What is the status of border crossings and the condition of supply roads? • How do traders expect prices and availability of basic items to change in the near future? • Which payment modalities do traders accept? • What is the degree of market functionality in South Sudanese markets?			
Geographic Coverage	Depending on capacity of CWG partners; urban and rural marketplaces throughout South Sudan			
Secondary data sources	• Climis price data • WFP-VAM price data • WFP South Sudan market assessments • FEWSNET			
Population(s)	□	IDPs in camp	□	IDPs in informal sites
	□	IDPs in host communities	□	IDPs [Other, Specify]
	□	Refugees in camp	□	Refugees in informal sites
	□	Refugees in host communities	□	Refugees [Other, Specify]
	□	Host communities	X	Traders of food and NFIs
Stratification	X	Geographical #: 10 states; 30 – 35 counties (depending on capacity of SSD CWG members)	□	Group #: _ _ _ Population size per strata is known? □ Yes X No
			□	*[Other Specify]* #: _ _ Population size per strata is known? □ Yes X No

[1] The INT is an information system that aims to provide the South Sudan Need Analysis Working Group (NAWG) and key decision makers with a system that consolidates multiple data sources and critical indicators into one information management system, which feeds into a classification decision tree, endorsed by the four life-saving clusters.

[2] The multi-sector survival minimum expenditure basket (MSSMEB) is a culturally adjusted list of goods that represents the minimum amount of money an average South Sudanese household needs to spend each month in order to meet basic needs.

		Population size per strata is known? □ Yes X No				
Data collection tool(s)	X	Structured (Quantitative)		□	Semi-structured (Qualitative)	
	Sampling method			**Data collection method**		
Structured data collection tool # 1 *Trader Questionnaire*	X Purposive □ Probability / Simple random □ Probability / Stratified simple random □ Probability / Cluster sampling □ Probability / Stratified cluster sampling □ [Other, Specify]			X Key informant interview (Target #): until minimum threshold of prices is met for each item[3] □ Group discussion (Target #):_ _ _ _ _ □ Household interview (Target #):_ _ _ _ _ □ Individual interview (Target #):_ _ _ _ _ □ Direct observations (Target #):_ _ _ _ _ □ [Other, Specify] (Target #):_ _ _ _ _		
Structured data collection tool # 2 *Feedback Form*	X Purposive □ Probability / Simple random □ Probability / Stratified simple random □ Probability / Cluster sampling □ Probability / Stratified cluster sampling □ [Other, Specify]			X Key informant interview (Target #): 1 per location and round □ Group discussion (Target #):_ _ _ _ _ □ Household interview (Target #):_ _ _ _ _ □ Individual interview (Target #):_ _ _ _ _ □ Direct observations (Target #):_ _ _ _ _ □ [Other, Specify] (Target #):_ _ _ _ _		
Target level of precision if probability sampling	N/A			N/A		
Data management platform(s)	X	IMPACT		□	UNHCR	
	□	[Other, Specify]				
Expected output type(s)	□	Situation overview #: _ _	□	Report #: _ _	□	Profile #: _ _
	□	Presentation (Preliminary findings) #: _ _	X	Presentation (Final) #: 1 every month	X	Factsheet #: 1 every month
	X	Interactive dashboard #:1	□	Webmap #: _ _	□	Map #: _ _
	X	INT update #: 1 every month				
	X	Dataset #: 1 every month				
Access	X	Public (available on REACH resource center and other humanitarian platforms)				
	□	Restricted (bilateral dissemination only upon agreed dissemination list, no publication on REACH or other platforms)				
Visibility	Data collection partner logos are added in the last sheet of the factsheet, while CWG, REACH and FCDO logos are displayed on every sheet.					

2. Rationale

2.1. Rationale

Since the onset of fighting in 2013, hundreds of thousands of people have been fleeing the conflict in South Sudan and an estimated 7 million are in need of humanitarian assistance.[4] In addition to the complex displacement dimension, ongoing conflict and climatic shocks, which have increased food insecurity, South Sudan has been suffering from a severe economic downturn, price inflation and disrupted supply chains. As a result, access to basic goods and services has become a challenge in some parts of the country as many people struggle with decreasing purchasing power and partially dysfunctional markets to meet basic needs.

To support markets and address needs, humanitarian partners are implementing cash and voucher assistance (CVA) as an effective means to assist vulnerable households. Not only is the delivery of cash logistically simpler and faster than the delivery of food and non-food items, but transaction costs of cash distributions are substantially lower than those of in-kind, all while boosting local economies and preserving the dignity of beneficiaries. In the current environment of decreasing donor interest, humanitarian organizations operating in South Sudan are increasingly incentivized to prioritize cost-effective means of assistance, such as CVA and voucher distributions. Furthermore, there are pockets throughout the country with functional market systems, while new transfer modalities (e.g. mobile money) and a stabilization of the political and economic environment may reduce operational barriers to CVA.

However, cash-based interventions require supply chains to function properly and to provide basic commodities continuously. Disruptions to the supply chains may affect the availability of basic goods, as well as commodity prices, thus negatively impacting households' ability to access basic food and non-food items to support their livelihoods. It is therefore critical for the humanitarian community to widen the evidence base and to develop a deeper understanding of the complex market dynamics in South Sudan.

There had previously been no systematic monitoring of the MSSMEB (Multi-Sector Survival Minimum Expenditure Basket) in South Sudan and gaps remain in the existing market monitoring coverage (both geographically and thematically). Some CWG members previously conducted ad hoc price monitoring in their own areas of operation, but were not able to consolidate or analyze the raw data. Others conducted food price monitoring across South Sudan (WFP-VAM), but did not collect data on the MSSMEB and other non-food items. Hence, there is a need for a joint, multi-sectoral process with dedicated capacity. This research harmonizes data collection efforts and combines resources of humanitarian actors throughout the country, which leads to greater coverage, effectiveness and operational applicability for market monitoring systems for cash actors in South Sudan.

To address the outlined information gaps and consolidate existing data collection efforts, REACH works in close collaboration with the Cash Working Group (CWG) to launch and coordinate the South Sudan Joint Market Monitoring Initiative (SSD-JMMI). These activities further build the foundation for CVA in the South Sudan response, and create a platform in the CWG to discuss critical market dynamics as an integral part of cash feasibility considerations. In addition, the market monitoring data feeds into the Integrated Needs Tracking (INT) system, which aims to provide the South Sudan Need Analysis Working Group (NAWG) and key decision makers with a system that consolidates multiple data sources and critical indicators into one information management system.

[3] 4 for food and non-food items, 2 for currencies and milling costs, 5 for casual labor wages, 2 for wholesale food items
[4] UNOCHA. (2017). South Sudan Humanitarian Needs Overview 2018. Published December 2017.

3. Methodology

3.1. Methodology overview

The research activity outlined in these ToR is part of an assessment project consisting of one component.

1) Monthly market monitoring (in collaboration with the CWG) by establishing the South Sudan Joint Market Monitoring Initiative (SSD-JMMI)

The market monitoring component, which is subject of these ToR, is a joint initiative with the CWG and its member organizations. As such, the methodology was defined in collaboration with the CWG members.[5] Data collection is based on purposive sampling. REACH consolidates and analyzes data sent in by partners from field locations (depending on partner capacity) through one commonly adapted tool.[6] Market data is collected in monthly cycles and published in the form of monthly factsheets and datasets, as well as an online dashboard.

3.2. Secondary data review

Key secondary data sources are:

- **WFP**: Existing market assessments from in South Sudan to get a baseline understanding of South Sudanese markets
- **WFP** monthly price monitoring bulletin; to triangulate price data from JMMI
    - http://vam.wfp.org/CountryPage_assessments.aspx?iso3=ssd
- **Climis/FAO** price data; to triangulate price data from JMMI
    - http://climis-southsudan.org/markets
- **FEWS NET**: East Africa regional supply chain maps
- **Logistics cluster**: road updates
    - https://logcluster.org/ops/ssd11a
- **REACH Reports and briefs**: Existing market data from REACH South Sudan including cash feasibility assessment conducted

Furthermore, technical guidance on research design and tools will be derived from the following toolkits:

- **MARKit:** Price Monitoring, Analysis and Response Kit
- **CaLP** guidance documents

Key definitions:

- **Market**: The term 'market' refers to a system of exchange between two or more actors or players. The exchange can be for goods or services, or for money […]. (CaLP)
- **Marketplace**: A marketplace is where exchanges happen. This is typically a physical place where different wares or goods (and sometimes services) are sold – such as a village or livestock market. (CaLP)
- **Consumer**: Individual that purchases goods for consumption
- **Trader**: Individual/entity that supplies consumer goods in exchange for currency and/or credit.
- **Retailer**: Trader selling to consumers
- **Wholesaler**: Trader selling to other traders
- **Retail price**: The monetary value at which goods and services are exchanged at the end of the retail chain i.e. between the seller and the final consumer. (CaLP)
- **MSSMEB**: The multi-sector survival minimum expenditure basket (MSSMEB) is a culturally adjusted list of goods that represents the minimum amount of money an average South Sudanese household needs to spend each month in order to meet basic needs.

[5] The South Sudan JMMI is based on previous joint market monitoring initiatives in other humanitarian contexts, such as Syria, Iraq, Libya, Yemen, Somalia and Central African Republic.
[6] REACH collects data in four locations.

3.3. Primary Data Collection

Coordination

The JMMI is a joint exercise led by REACH in close collaboration with the CWG and its members, who collect data in their respective field bases on voluntary basis. As such, the scope and coverage of the JMMI largely depend on the interest and capacity of the CWG members to participate. To ensure activities are implemented with full consultation, buy-in and to the benefit of CWG members, the JMMI Technical Working Group (JMMI-TWG), which is the decision-making body and guiding the initiative, was formed in July 2019. Its objective is to support the design and successful implementation of the initiative, as well as to build technical consensus.

Members of the JMMI-TWG are REACH (as lead of the JMMI), the CWG-leads and partner organizations contributing to the initiative. The JMMI-TWG agrees on the key pillars of the initiative, such as methodology, data collection tools, item list, coverage, visibility, ownership of data etc.

Sampling

Frequency

Data collection takes place on a monthly basis. Organizations with interest and capacity may collect data on a bi-weekly basis from their locations if they wish to do so.

In each round, data collection takes place for a period of one week, which is scheduled for the first 7 days (1st to 7th) of each month. Field teams are advised to collect data on the weekly market day (if such exists), and otherwise prioritize data collection for the first 1-2 days within the 7-day period.

All data from a marketplace needs to be collected on the same day (for efficiency and consistency reasons). Once all data is collected, there is no need to return to the marketplace on subsequent days within the data collection period to repeat the exercise.

Coverage

The JMMI aims to cover marketplaces throughout all states of South Sudan, in both urban and rural settings. Geographical coverage depends on the CWG member's capacity and interest to contribute to the initiative, as well as regular access to marketplaces. As such, locations are added to the coverage when partners offer to collect data. Initially, the TWG planned to include partners with a strong commitment to cash programming. After the initiative was launched successfully and coverage stabilized, national cash partners, as well as organizations from the food security & livelihoods (FSL), WASH and shelter/NFI clusters were invited to join the JMMI.

Market and Marketplace selection

Market definition - Any formal or informal system or group of market actors (not necessarily a physical space) in which buyers and sellers exchange goods, labour, currency, or services for cash or other goods. *(CALP)*

JMMI prioritizes market towns that draw significant numbers of vendors and customers from surrounding areas. These towns are strategically selected across the country to enable meaningful comparisons between more and less crisis-affected locations. When resources or funding are limited, priority is given to the largest markets within each county and those most directly impacted by humanitarian crises.

Marketplace definition - A physical space where people buy and sell a variety of goods.

JMMI targets the largest marketplace(s) in each monitored area where basic goods are sold at the retail level. In South Sudan, a marketplace is defined as any physical space with a relatively high concentration of traders in close proximity. Since marketplaces vary significantly across community sizes, different approaches are used to identify them:

Small locations: In smaller communities, there is typically only one central marketplace. If multiple marketplaces exist, they may offer different types of goods. In such cases, the entire village may be treated as the marketplace, and data collection is limited to traders operating within the village perimeter.

Large locations: In larger urban centers (e.g., Juba, Wau, Renk) with several major marketplaces, specific, well-known marketplaces within the city are selected. These tend to be the main marketplaces, widely recognized by both the local

population and field teams.

Per round, data is collected from 40 to 50 marketplaces, with only one partner contributing data per marketplace.[7]

Trader selection

Per marketplace, multiple traders are surveyed. Based on the knowledge of the local context, field teams identify traders from which prices are monitored. The trader selection is based on the following criteria:

Retailers:

- Retailers are traders selling directly to consumers. Wholesalers should be avoided unless they commonly also sell directly to consumers.
- Traders selling basic commodities should be targeted and those selling upmarket goods and expensive brands avoided.
- Traders with weight scales should be prioritized for food items. However, traders without weight scales may be interviewed too should the number of traders with scales be low in the marketplace.

Wholesalers:

- Wholesalers are traders selling food items to other traders in bulk.
- Traders selling basic commodities in bulk should be targeted while traders selling upmarket goods and expensive brands should be avoided.
- Traders need to sell (maize, beans, sugar and Sorghum) in large quantities (in 50/100 kg bags).

Wholesalers are only targeted for wholesale prices of maize, beans, sugar and Sorghum. Two quotations are usually collected per item.

To the extent possible, traders should be located in different parts of the marketplace. There are no limits on the type or scale of traders surveyed, as consumers usually buy from both small-scale and large-scale traders.

Per marketplace, at least 2 prices per item need to be collected from different retail traders to ensure quality and consistency of the data. Traders need to be visited until the threshold of 2 collected prices is met for each item. If an item is never sold in a specific location, or if an item is seasonally or otherwise unavailable in the entire marketplace, no price data for said item needs to be collected. For consistency reasons, if field teams could not find 2 traders that had a specific item in stock, there is no need to return to the marketplace on subsequent days, even if new supplies may have arrived in the meantime. If less than 2 prices are collected, the national median is used to calculate key indicators like MSSMEB and Food basket.

To ensure consistency and acceptance for the JMMI, traders from the existing pool are visited each month. However, it is recommended to rotate among different traders in the pool to reduce interview fatigue. Interviews are also spaced appropriately to allow traders time to attend to their business while still participating in the assessment. Should enumerators suspect that a trader indicates inflated prices (in the hope to benefit from humanitarian programming), the trader should be avoided and replaced with another.

[7] In small locations, only one partner will contribute at a time. In large locations, multiple partner may contribute from different marketplaces.

JMMI item list

The JMMI item list is tracked across all covered locations. It aims to meet the interest of CWG partners. As such, the item list includes a set of commodities that are part of the MSSMEB (multi-sectoral survival minimum expenditure basket) as well as additional items of interest to FSL, WASH, shelter, NFI and protection actors.

The current item list was defined by the JMMI-TWG in July 2019, and may be adjusted in future rounds depending on the needs of the Cash Working Group. As at June 2025, this list has not changed.

Table 1: Composition of the JMMI Item List

Category	Items
Food items	Sorghum grain, Maize grain, Wheat flour, Rice, Groundnuts (shelled), Beans, Sugar, Salt, Cooking oil
Non-food items (NFIs)	Soap (bar), Jerrycan (20 L), Mosquito net (medium sized), Sleeping mat, Pen, Pencil, Exercise book (A5-sized), Cooking pot (medium sized), Plastic sheet (6x4 m), Pole (local, medium length), Firewood (bundle for 3 days), Rubber, Sharpener, Blanket (2x1.5 m), Rubber rope, Kanga (collected once after 3 months), Sanitary pad (collected once after 3 months), Charcoal, Solar lamp, Plastic bucket
Livestock	Goat (male, adult, medium sized), Chicken (cock, medium sized)
Currencies	US dollar (USD), Sudanese pound (SDG)*, Ethiopian Birr (ETB)*, Ugandan shilling (UGX)*, Kenyan shilling (KES)*
Services	Milling costs, Casual labor wage (unskilled, daily rate)

**only in border areas with foreign currencies in circulation*

In each round and from all covered marketplace, JMMI partners collect data on the full item list. If a partner has a particular interest in an item beyond the JMMI basket, they may collect additional data in locations where they contribute to the initiative.

If there are different types for certain items (e.g. feterita vs. brown sorghum grain), data is collected on only the cheapest type available in the marketplace, which is in line with the purpose of the minimum expenditure basket. No data is collected on branded food items nor items distributed by humanitarian organizations (e.g. plastic sheets) as these tend to be more expensive (unless these are the only types available in the marketplace).

NFIs are particularly challenging to standardize as they vary significantly in terms of types and specifications. The JMMI methodology aims to balance consistency and comparability considerations (precise definition needed) with geographical variations in availability (loose definition needed). The specifications for NFIs are found in Table 1.

Unit standardization

Retail

As vulnerable populations cannot afford to buy large quantities (e.g. 50 kg bag), the retail prices are recorded for small quantities (e.g. 1 kg). Retailers most commonly sell dry food items (e.g. sorghum, sugar) in mugs, *malwas* and bags of various sizes. Each of those units create certain challenges in terms of measurement error and data quality as they are defined by volume rather than weight. To standardize units for food items and to guarantee consistency across traders, locations and time, the following logic is followed by the field teams:

1) **Scale**: If the trader owns a scale, the price per kilogram is recorded. Traders with weight scales should be prioritized. Traders without scales are avoided if others in the marketplace own one.
2) **JMMI mug**: If traders in a marketplace do not own scales, field teams bring the official JMMI mug (542 ml) to the marketplace and ask traders how much it would cost to fill it up (without heaping).
3) **Bottle**: Field team which have not received a JMMI mug yet may instead use a soda bottle (500 ml) with the bottom

cut off.

4) **Pre-packaged**: If an items is commonly sold in pre-packaged form (e.g. 200 g of lentils, 2 kg of rice), the price per package is recorded.

To convert volume retail prices into kilogram retail prices, the following steps are undertaken for dry food items:

1) For each food commodity on the item list, the density is measured at Konyokonyo market in Juba on bi-annual basis using a weight scale and a measuring cup. See Table 2 for the latest density values.
2) For each unit, the volume is multiplied with the density of the respective food item to calculate the corresponding weight equivalent.
3) The weight is then normalized to 1 kg. All subsequent analysis is done with the kilogram price.

Table 2: Density of Dry Food Items (as measured at Konyokonyo, Juba, in March 2019)

Item	Density (g/ml)
Sorghum grain (feterita)	0.916
Sorghum grain (brown)	0.735
Sorghum grain (mixed)	0.825
Sorghum grain (mayo)	0.781
Maize grain	0.772
Wheat flour	0.655
Rice	0.819
Groundnuts (shelled)	0.661
Beans	0.832
Sugar (brown)	0.859
Sugar (white)	0.907
Salt	1.361
Charcoal	0.301

Wholesale

For wholesale prices, 50 kg bags are used as reference units.

3.4. Data Processing & Analysis

Mobile data collection

In order to effectively scale up the initiative and to efficiently process the collected data, data is collected through mobile devices using the KoBo platform. A new set of forms is uploaded each month to the designated JMMI account. Field teams have access to the account to download the KoBo forms and upload all completed surveys. They use these KoBo forms to interview traders and record their responses using the *ODK Collect* Android offline mobile app on their phones. All data needs to be uploaded via *ODK Collect* by the end of the data collection period. No paper form submissions are accepted.

Data collection tools

Two tools are used to collect the market data: (1) Trader questionnaire and (2) feedback form.

Trader questionnaire

The trader questionnaire is the basic tool used to interviews with traders. A separate form needs to be filled in for each surveyed trader.

Data on the following indicators is collected for each item on the JMMI basket:

- Availability[8] – *available / limited / unavailable*
- Type[9] – *select category*
- Price[10] – *in SSP, SDG, ETB, UXG or KES*
- Current ability to restock[11] – *yes / no*

- Restocked in last 30 days[11] – *yes / no*
- Stock levels[11] – *number of days until depletion of stock assuming no restocking and normal demand*
- Availability expectations (3 months)[12] – *available / limited / unavailable*
- Price expectations (3 months)[12] – *increase / decrease / no change*
- Market Functionality[13]

Data on the following indicators is collected per surveyed trader:

- Location of main staple cereal/non-cereal food/NFI supplier[14] – *select location*
- Mode of transport use for restocking – *select option*
- Main challenges when restocking – *select option*
- Time needed to restock staple cereals, non-cereal food items and NFIs – *in number of days*
- Condition of supply road – *open / restricted / closed*
- Status of nearby border crossings[13a] – *open / restricted / closed*
- Accepted payment modalities – *select from list*
- Overall food price expectations in next 3 months[14] – *increase / decrease / no change*
- Overall NFI price expectations in next 3 months[14] – *increase / decrease / no change*
- Major anticipated challenges in next 3 months – *open-ended*

If a partner has a particular interest in indicators beyond the above list, additional indicators are added for the specific locations where said partner contributes to the initiative.

Feedback tool

In an effort to gather regular feedback on the JMMI process from field teams and to collect data on the marketplace level (as opposed to trader level), a separate tool is created. The feedback tool is filled in once per marketplace, after data collection is completed. Taking advantage of their contextual knowledge and in-depth knowledge of the local marketplace, field teams serve as key informants and answer the questions in the feedback form themselves.

Data on the following indicators on the marketplace level is collected:

- Availability of items – *select from list*
- Regularity of staple cereals being unavailable in entire marketplace in last month – *always / frequently / sometimes / never*
- Significant price changes in last month – *none / increase / decrease*
- Reason for significant price changes – *open-ended*
- Seasonal/yearly change in number of traders – *much lower / lower / no change / higher / much higher*
- Seasonal/yearly changes in difficulty to resupply – *much lower / lower / no change / higher / much higher*
- Seasonal/yearly changes in prices – *much lower / lower / no change / higher / much higher*
- Seasonal/yearly changes in demand – *much lower / lower / no change / higher / much higher*
- Condition of supply road – *open / restricted / closed*
- Status of nearby border crossings – *open / restricted / closed*
- Price and availability expectations – *open-ended*
- Anticipated major challenges – *open-ended*

[8] Not collected for services.
[9] Only for sorghum flour, beans, sugar, cooking oil and soap.
[10] Price can be recorded in SSP, SDG, ETB and UGX.
[11] Indicator not collected for poles, firewood, charcoal, livestock, currencies and services.
[12] Only collected for sorghum grain, maize grain, beans and sugar
[13] Contains questions on five key dimensions of market functionality: accessibility, availability, affordability, resilience, and infrastructure.
[13a] Only asked in counties near border crossings.
[14] Only collected for food and imported NFIs; If the supplier is located in the same marketplace, the location of the trader's supplier's supplier is enquired to gain a better understanding of the supply chains.

The following data is collected on the JMMI process:

- Challenges faced while collecting data – *select from list*
- Items with less than 4 prices (and reason for collecting less than 4) – *select from list*
- Suggestions on how to improve process – *open-ended*

Data cleaning

To monitor the incoming data, a cleaning and analysis tool is used in order to keep track of data quality and partner submissions. Following each round of data collection, the centralized, raw data is compiled and cleaned, outliers removed and field teams followed up with if needed. In particular, the data will be checked for the following:

- Number of prices per item collected per location (to check if the minimum threshold of 4 prices per item is met)
- Median price per item per location (to check for variation across locations)
- Minimum and maximum price per item per location (to check for variation within locations)
- Outliers (i.e. an item price that is substantially different from others collected in the same month and location)
- Monthly changes in the median price per location (to check for month-on-month variation); Significant price changes (exceeding 50% since previous month) and sudden shortages are further investigated by following up with field teams. Whenever possible, information about the local context is gathered to support qualitative analysis.
- GPS coordinates of entries (to check legitimacy of submitted data)
- Duration of surveys per location (to check legitimacy of submitted data)
- Number of errors/inconsistencies (e.g. modifications/deletions made to clean data) per location
- Indicators to assess partner performance (e.g. missing data points, numbers of cleaning log entries, late submissions etc.)[15]

Following each round of data collection, REACH assessment staff cleans and triangulate the obtained data through four different steps:

1) Comparison of most recently collected data with previous rounds of data to identify inconsistencies;
2) Review of secondary data, such as WFP-VAM and Climis price data.
3) Consultation of field teams and partners in order to cross-check data quality.
4) Contextualization of results based on findings from previous market assessments

Analysis & Aggregation

Aggregation to location level:

As the data is collected on the key informant level, the following steps are undertaken to aggregate the trader level data on the location level:

- ***Availability***: Availability is defined categorically (available, limited[16], unavailable) for each item based on the following logic:
    - If an item is normally available from at least one surveyed trader, it is considered available in the location.
        - Else: If an item is not normally available from any surveyed trader, but is limitedly available from at least one trader, it is considered limitedly available in the location.
            - Else: If none of the above apply, the responses from the feedback form are used.[17] If an item is available according to the feedback form, the item is considered available.
                - Else: If an item is not available from any surveyed trader, and is not available in the location according to the feedback form, it is considered unavailable in the location.

- ***Prices***: Using prices collected from individual traders, the median prices are calculated for each item per assessed marketplace (separately for retail and wholesale prices).[18]

- ***Stock levels***: For each item, the median stock level across all traders in the marketplace is calculated

- ***Ability to restock***: If at least one trader is able to restock an item, the marketplace aggregate will be "*yes*", else "*no*" (if the item is normally sold at all).

- ***Restocked in the last month***: If at least one trader restocked an item in the last month, the marketplace aggregate will be "*yes*", else "*no*".

- ***Restock duration***: The median restock duration across all traders in the marketplace is calculated for food and non-food items.

- ***Location of food/NFI supplier***: The most commonly named location is taken as the location of the marketplace's supply market.

- ***Status of border crossing***: The status of the border crossing is defined categorically. The aggregation across surveyed traders follows the following logic:
    - If at least two surveyed traders indicate a border crossing is "*open*", the overall response is "*open*".
        - Else: If at least two surveyed traders indicate the border crossing is at least "*open irregularly*", the overall response is "*open irregularly*".
            - Else: If at least two surveyed traders indicate the border crossing is "*closed*", the overall response is "*closed*".
                - Else: If none of the above apply, responses from the feedback form are used. If at least one field team indicates the border crossing is "open", the overall response is "*open*".
                    - Else: If at least one field team indicates the border crossing is "*open irregularly*", the overall response is "*open irregularly*".
                        - Else: If at least one field team indicates the border crossing is "*closed*", the overall response is "*closed*".
                            - Else: If none of the above apply, the overall answer is "*no data*".

- ***Road conditions***: The road conditions are defined categorically. The aggregation across surveyed traders follows the following logic:
    - If at least two surveyed traders indicate a road segment is "*open*", the overall response is "*open*".
        - Else: If at least two surveyed traders indicate the road segment is at least "*open irregularly*", the overall response is "*open irregularly*".
            - Else: If at least two surveyed traders indicate the road segment is "*closed*", the overall response is "*closed*".
                - Else: If none of the above apply, responses from the feedback form are used. If at least one field teams indicate a road segment is "open", the overall response is "*open*".
                    - Else: If at least one field team indicates the road segment is "*open irregularly*", the overall response is "*open irregularly*".
                        - Else: If at least one field team indicates the road segments is "*closed*", the overall response is "*closed*".
                            - Else: If none of the above apply, the overall answer is "*no data*".

[15] New partners receive a brief, individual feedback about their field team's performances for the first 3 cycles. Typically, new JMMI partners substantially improve the quality of the submitted data after the first three rounds, especially the first one. Thus, individual feedback may not be necessary once the field teams and partner focal points are more familiar with the methodology of the JMMI. Certain data submissions may be excluded from analysis and not published should the quality be considered too low.

[16] Limited: Only very few traders have the item in stock and only in low amounts.

[17] It is possible that an item may still be available in a location even though the enumerators did not collect any price data for it (e.g. if field teams are negligent or cannot find a trader selling said item and who accepts to be surveyed).

[18] In the context of price analysis, the median is a more useful measure than the mean, as it is not as strongly affected by outliers.

- ***Overall food and NFI price expectations (3 months)***: Price expectations are defined categorically (increase, decrease, no change) based on the following logic:
    - If at least two surveyed traders expect a price increase while at least two surveyed traders expect a price decrease, the overall expectation in the location will be "*no consensus*".
        - Else: If at least two surveyed traders expect a price increase, the overall expectation in the location is "*increase*".
            - Else: If at least two surveyed traders expect a price decrease, the overall expectation in the location is "*decrease*".
                - Else: If at least two surveyed traders expect no price change, the overall expectation in the location is "*no change*".
                - Else: If data on price expectations were collected, but none of the above apply, the modal answer will be "*no consensus*".

Multi-Sectoral Survival Minimum Expenditure Basket (MSSMEB):

The JMMI aims to track the MSSMEB across all assessed locations on a monthly basis. The MSSMEB is currently under revision. Once revised, it will be incorporated in the JMMI. In the meantime, the JMMI tracks a subset of the existing MSSMEB. The tracked MSSMEB is composed of all monthly items (as opposed to one-offs), excluding bleach, pencils, rubbers and sharpeners. The weights used to calculate the MSSMEB correspond with quantities in the table below. Sorghum (in Greater Upper Nile and Great Bahr el Ghazal) and maize grain (in Greater Equatoria) prices are used to calculate the cereal component. Likewise, the price of beans is used to calculate the pulse component. The local parallel market exchange rate is used to convert the USD amounts for drugs, school fees and transport into SSP.

Table 3: Composition of the MSSMEB and inclusion of components in JMMI

Category	Item	Total Quantity	Unit	One off / monthly	Inclusion in JMMI
Food	Cereal	90	kg	Monthly	Yes (use sorghum/maize grain prices)
Food	Pulses	9	kg	Monthly	Yes (use bean prices)
Food	Vegetable oil	6	L	Monthly	Yes (use cooking oil prices)
Food	Salt	1	kg	Monthly	Yes
Non-food	Charcoal	1	50 kg bag	Monthly	Yes
Non-food	Grinding cost	30	kg	Monthly	Yes
Non-food	Blanket	2	Pcs	One off	No (but in JMMI item list)
Non-food	Mosquito net	2	Pcs	One off	No (but in JMMI item list)
Non-food	Kitchen set	1	Pcs	One off	No (but cooking pot in JMMI item list)
Non-food	Bar soap (200-250 grams/pc)	6	Pcs	Monthly	Yes
Non-food	Bleach (to purify water)	1.5	L	Monthly	No
Non-food	Jerry can (20L)	2	Pcs	One off	No (but in JMMI item list)
Non-food	Human drugs	10	USD	Monthly	Yes (use local parallel market rate for conversion to SSP)
Non-food	School fees	3	USD	Monthly	Yes (use local parallel market rate for conversion to SSP)
Non-food	School material – 4 note books	3	4 Pcs	Monthly	Yes
Non-food	School material – 2 pencils	3	2 Pcs	Monthly	No
Non-food	School material – 2 pens	3	2 Pcs	Monthly	No
Non-food	School material – 1 rubber	3	Pcs	Monthly	No
Non-food	School material – sharpener	3	Pcs	Monthly	No
Non-food	Airtime	30	Min	Monthly	Yes, 1 USD monthly
Non-food	Transport	3	USD	Monthly	Yes (use local parallel market rate for conversion to SSP)
Non-food	Reusable sanitary pads	4	Pcs	One off	No
Non-food	Underwear	4	Pcs	One off	No
Non-food	Kanga	2	Pcs	One off	No

When an item's median price is not available in a given location – for example, in the event of a market shortage – the missing price is dealt with in one of two ways:

- *Missing price for cereal component (sorghum or maize grain)*: Depending on the location, the missing price is imputed by replacing it either with last month's location price for sorghum or maize grain, or with the location price from a nearby location.
- *Missing price for non-cereal components*: The missing price is imputed by replacing it with the overall country median price.

Full Survival Minimum Expenditure Basket (SMEB) and the Multipurpose Cash (MPC):

Since 2024, and in line with guidance from the Cash Working Group (CWG), the Joint Market Monitoring Initiative (JMMI) has been calculating the full Survival Minimum Expenditure Basket (SMEB) and corresponding Multipurpose Cash (MPC) transfer values. The Survival Minimum Expenditure Basket (SMEB) is defined as 'the critical needs which a household requires to meet their critical essential needs, on a regular or seasonal basis, and its average cost'. The 'critical essential needs' are defined as the critical goods and commodities, utilities and services required by households and recommended by the sector to ensure survival and minimum living standard. To reflect the minimum required support across sectors, each sectoral MEB is included at a specific percentage. For example, the food component is covered at 50% in most counties, but this increases to 70% in priority areas such as Aweil East, Duk, Nyriol, Pibor, and Rubkona. Other components are included at the following rates: 20% each for water, sanitation and hygiene (WASH), shelter, non-food items (NFI), and transport; 50% each for protection/GBV, health, and milling costs; 30% each for energy and education; and 100% for communication. These calculations are based on the official exchange rate between the US dollar and the South Sudanese pound (USD–SSP).

All sectoral components are aggregated to form the full SMEB. To determine the MPC transfer value, a 30% buffer is added to the SMEB to account for inflation and price volatility, ensuring that the assistance provided remains responsive to changing market conditions.

Market functionality Score (MFS):

The Market Functionality Score is a method developed by REACH to classify markets based on their level of functionality, enabling comparisons across and among countries. This is a key task to help aid actors understand which markets function well enough to be good targets for cash and voucher assistance and which require alternative forms of market-based programming. While it was designed to be integrated into the JMMI, the MFS can also be integrated into other vendor-focused assessments or even used, with some modification, as a standalone assessment tool.

The MFS consists of a collection of indicators drawn from the JMMI questionnaire that capture data on five key dimensions of market functionality: **accessibility, availability, affordability, resilience,** and **infrastructure**. Each of these dimensions is assigned a weight based on how strongly it influences the market's overall ability to meet customer demand, as detailed in the table below. In addition, each indicator within a dimension is assigned a set of scoring thresholds based on its relative centrality to that dimension and the degree to which certain answer options reflect positive or negative outcomes.

Dimension & Weight	Core questions answered	Aggregation method	Thresholds

Accessibility
 	
25%
	• Do all market actors, including customers, have *physical access* to this market (meaning most people are able to reach and enter marketplaces and/or businesses from their shelters without major physical effort or expense, and customers are physically able to bring goods back to their shelters in large enough quantities)?
	  • Question to trader: *"Over the last 1 month, have there been problems that prevented any customers or traders from physically travelling to, working at, or shopping at the marketplace?"*
	  • Dataset name: *mfs_ac1_phycsical_access_mkt_issues_sm*
		% of vendors selecting an option other than 'Hazardous, damaged, or unsafe buildings in the marketplace', 'Hazards or damage on roads leading to the marketplace', 'No issues', 'Don't know', or 'Prefer not to answer'
		
		If any vendor responds 'Yes', the market is coded as 'Yes'
			Indicator 1:
			
			Max score 8
			
			8: < 5%
			
			6: 5-10%
			
			4: 11-25%
			
			2: 26-50%
			
			0: > 50%

	• Do all market actors, including customers, have *social access* to this market (meaning they are not prevented from accessing marketplaces and/or businesses or obtaining goods due to their gender, ethnicity, affiliation, or other physical or social characteristics)?
	  • Question to trader: *"Over the last 1 month, have there been any groups of people that sometimes avoided coming to marketplace due to discrimination, exclusion, or feeling unwelcome?"*
	  • Dataset name: *mfs_ac3_physical_access_mkt_discrimination_so*
	• Are this marketplace and the roads leading to it *safe and secure* (meaning customers and other market actors can reach marketplaces and/or businesses without putting themselves at risk)?
	  • Question to trader: *"Over the last 1 month, have any of the following security factors had a negative impact on your business, your customers, or you personally while doing your work?"*
	  • Dataset name: *mfs_ac4_physical_access_security_issues_sm*
		% of vendors selecting an option other than 'No issues' or 'Prefer not to answer'	**Indicator 2:**
			Max score 2
			2 points for any other response, 0 points for "Yes"
			Indicator 3:
			Max score 3
			3: < 5%
			2: 5-10%
			1: 11-20%
			0: > 20%

Availability
30%
	• Can vendors in this market reliably provide all core items that local households need to purchase on a regular basis?
	  • Question to trader: Collect the price of the cheapest type of the following items available in the marketplace. (Sorghum grain, maize grain, wheat flour, rice, groundnuts, beans, sugar, salt, vegetable oil, soap, jerrycan, mosquito net, exercise book, blanket, sleeping mat, cooking pot, plastic sheets, pen, pencil, rubber, sharpener, rubber rope, kanga, solar lamp, plastic bucket, sanitary pad, underwear, school bag, bra, pole, firewood, charcoal, bamboo, grass, goat, chicken)
	  • Dataset name: *shop_availability_item*
		If an item is reported widely available by a majority of surveyed vendors, it is coded as 'Widely available'
		If an item is not reported fully available by a majority of surveyed vendors, but is available on a limited basis from at least one vendor, it is coded as 'Limited availability'
		If an item is not available either on a full or a limited basis from any surveyed vendor, it is coded as 'Completely unavailable'
			Max score 3x number of monitored items
			3 points for each monitored item reported to have wide availability
			2 points for each monitored item reported to have limited availability
			0 points for each monitored item reported to be unavailable

Affordability 15%	• Do customers have *financial access* to this market (meaning core items are consistently sold at prices an average local household can afford)? Are the prices for core items in this market *stable* (meaning they change slowly enough to enable vendors and customers to plan		**Question 1:** **Max score 9** **9:** < 10%

	future expenditures)? • Question to trader: *"Do customers of your business face any financial challenges in travelling to you or in paying for the goods they need?"* • Dataset name: *mfs_af2_financial_challenges_customers_sm* • Question to trader: *"Think of the most popular items you sell. If we were to ask you what prices your suppliers will charge you for those items one month from now, do you think you would get it right?"* • Dataset name: *mfs_af3_price_forecasting_ability_yn*	% of vendors selecting an option other than 'No issues', 'Don't know', or 'Prefer not to answer' % of vendors selecting 'No'	**6:** 10-25% **3:** 26-50% **0:** > 50% **Question 2:** **Max score 6** **6:** < 10% **4:** 10-25% **2:** 26-50% **0:** > 50%
Resilience 20%	• Are vendors in this market consistently *able to restock* the core items they carry before they run out? • Question to trader: *"Are you currently facing any difficulties keeping your business operational and well-stocked?"* • Dataset name: *mfs_re4_shop_operational_difficulties_sm*	% of vendors selecting an option other than 'No difficulties', 'Don't know', or 'Prefer not to answer'	**Max score 12** **12:** < 5% **9:** 5-10% **6:** 11-25% **3:** 26-50% **0:** > 50%
Infrastructure 10%	• Do vendors in this market have access to *locked, secure storage facilities* where they can keep their stock? • Question to trader: *"Over the last 1 month, have you had access to a locked, secure storage facility within your business facility or marketplace?"* • Dataset name: *mfs_in2_available_storage_facility_so*	% of vendors selecting an option other than 'Yes, within my own business facilities', 'Yes, elsewhere within the marketplace', or 'Prefer not to answer'	**Max score 3** **3:** < 10% **2:** 10-25% **1:** 26-50% **0:** > 50%

In South Sudan, the MFS is interpreted as shown in the table below:

MFS Score	Interpretation
Above 70%	The market has full functionality
Between 50% and 70%	The market has limited functionality
Below 50% but above 25%	The market has poor functionality
Below 25%	The market has severe issues

Regional Price Aggregation and Exchange Rate Handling

To calculate prices at the regional level (such as county or state), we follow these steps:

1. Regional Prices – Using the Median of Medians

- First, we calculate the **median price** of each item in **each individual marketplace**.
- Then, to get the **regional price**, we take the **median** of those marketplace-level medians.
- This approach (called the *median of medians*) helps reduce the impact of outliers and ensures that very high or very low prices in one marketplace don't skew the overall regional average.

2. Missing Exchange Rate – Using National Median

- In some locations, traders only accept **foreign currency** (like USD), and **SSP (South Sudanese Pound)** is not used.
- In such cases, there's **no local exchange rate** available.
- When this happens, we use the **overall (national) median exchange rate** to convert prices from foreign currency to SSP.
- This ensures consistency in pricing data, even when local currency data is missing.

[20] Besides essential food items, people also derive basic non-food items from the market. With decreasing number of basic NFIs, the level of market functionality drops.
[21] Besides having essential foods in stock, a functional market should also provide a certain degree of variety. The less variety it provides, the less it is considered functional. The 28 food items taken into account are: Sorghum grain, sorghum flour, maize grain, maize flour, wheat flour, cassava flour, rice, millets, groundnuts, beans, cowpea, lentils, sesame, salt, sugar, cooking oil, milk powder, dried fish, honey, potatoes, okra, onions, tomatoes, bananas, mangos, fresh cow milk, fresh fish and beef meat.
[22] The 21 non-food items taken into account are: Soap, jerrycans, buckets, bleach, mosquito nets, exercise book, pens, blankets, clothing, sandals / shoes, cooking pots, cooking utensils, plastic sheets, poles, solar lamps, firewood, charcoal, petrol, diesel, medicine and phone credit.
[23] Market functionality not only depends availability of goods but also on their price level. A marketplace, in which prices are elevated to the degree that the local population cannot afford to buy anymore, cannot be considered fully functional.

4. Roles and responsibilities

Table 3: Description of roles and responsibilities

Task Description	*Responsible*	*Accountable*	*Consulted*	*Informed*
Research design	Assessment Officer (AO)	Research Manager (RM)	CWG, HQ	CWG, Headquarters (HQ)
External Engagement	AO	RM	Country Representative (CR)	CWG
Data collection tools	AO	RM	CWG, HQ	CWG, HQ
Coding of tools	AO, Data officer	RM	Senior Data officer	
Training of partners	AO, Field Officer (FO)	RM		CWG
Dashboard	GIS	AO	HQ, RM	CWG
Coordination of coverage	AO	RM	CWG	CWG
Supervising data collection	FO	AO		
Data processing (checking, cleaning)	FO	AO		
Data analysis	AO	RM	HQ	
Mapping	GIS	AO	HQ	
Output production	AO, FO	RM	HQ	CWG
Dissemination	CM, AO	RM	CR, HQ	CR
Monitoring & Evaluation	AO	RM		CR
Lessons learned	AO	RM		HQ
Donor reporting	AO	RM	CR	HQ
BFUs	AO	RM	CR	HQ, ACTED

Responsible: *the person(s) who executes the task*

Accountable: *the person who validates the completion of the task and is accountable of the final output or milestone*

Consulted: *the person(s) who must be consulted when the task is implemented*

Informed: *the person(s) who need to be informed when the task is completed*

AO: Cash & Markets Assessment Officer; **FO**: Field Officer; **GIS**: GIS Officer; **RM**: Research Manager; **CM:** Communications Manager; **CR**: Country Representative; **HQ**: Geneva Headquarters; **CWG**: Cash Working Group

5. Data Management Plan

Detailed Data Management Plan is available upon request.

6. Monitoring & Evaluation Plan

IMPACT Objective	External M&E Indicator	Internal M&E Indicator	Focal point	Tool	Will indicator be tracked?
Humanitarian stakeholders are accessing IMPACT products	Number of humanitarian organisations accessing IMPACT services/products Number of individuals accessing IMPACT services/products	# of downloads of x product from Resource Center	Country request to HQ	User_log	X Yes
		# of downloads of x product from Relief Web	Country request to HQ		X Yes
		# of downloads of x product from Country level platforms	Country team		□ Yes
		# of page clicks on x product from REACH global newsletter	Country request to HQ		X Yes
		# of page clicks on x product from country newsletter, sendingBlue, bit.ly	Country team		X Yes
		# of visits to x webmap/x dashboard	Country request to HQ		X Yes
IMPACT activities contribute to better program implementation and coordination of the humanitarian response	Number of humanitarian organisations utilizing IMPACT services/products	# references in HPC documents (HNO, SRP, Flash appeals, Cluster/sector strategies)	Country team	Reference_log	South Sudan HNO 2020
		# references in single agency documents			
Humanitarian stakeholders are using IMPACT products	Humanitarian actors use IMPACT evidence/products as a basis for decision making, aid planning and delivery Number of humanitarian documents (HNO, HRP, cluster/agency strategic plans, etc.) directly informed by IMPACT products	Perceived relevance of IMPACT country-programs	Country team	Usage_Feedback *and* Usage_Survey template	A usage survey will be conducted after 4 rounds of data collection and upon completion of the project.
		Perceived usefulness and influence of IMPACT outputs			
		Recommendations to strengthen IMPACT programs			
		Perceived capacity of IMPACT staff			
		Perceived quality of outputs/programs			
		Recommendations to strengthen IMPACT programs			
Humanitarian stakeholders are engaged	Number and/or percentage of humanitarian organizations	# of organisations providing resources (i.e. staff, vehicles, meeting space, budget, etc.) for activity implementation	Country team	Engagement_log	X Yes

in IMPACT programs throughout the research cycle	directly contributing to IMPACT programs *(providing resources, participating to presentations, etc.)*	# of organisations/clusters inputting in research design and joint analysis			X Yes
		# of organisations/clusters attending briefings on findings;			X Yes