

# Nutrition Vulnerability Analysis Sudan



May 2024

---

# ACKNOWLEDGEMENTS

The Sudan Nutrition Cluster extends its gratitude to the Nutrition Information System – Global Technical Working Group (NIS-GTWG) for its invaluable support and collaboration. We express our sincere appreciation for the establishment of the technical taskforce under the NIS-GTWG, which included Action Against Hunger (ACF) Spain, ACF Canada, the United States Centers for Disease Control and Prevention (CDC), the Global Nutrition Cluster (GNC), the Global SMART Team, the IMPACT-REACH initiative, Integrated Phase Classification (IPC), the United Nations Children’s Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO).

The guidance and assistance provided by these partners have significantly enhanced the quality of our approach and the interpretation of results. We are grateful for their ongoing commitment to advancing nutrition agendas and improving the well-being of vulnerable populations. Furthermore, we acknowledge the indispensable

collaboration with the Sudan Ministry of Health and the National Nutrition Cluster team, as well as with national stakeholders, UNICEF regional and national colleagues, and the WFP regional and national nutrition and VAM (vulnerability, analysis and mapping) teams.

Their collective efforts have played a pivotal role in the successful completion of this exercise, from data gathering to analysis. Lastly, we express our heartfelt gratitude to the UNICEF and WFP communication colleagues for their invaluable assistance in editing and formatting this report. Their meticulous attention to detail and dedication to enhancing the clarity and readability of the content have greatly enriched the quality of our work. We reaffirm our commitment to continued collaboration with the NIS-GTWG, our country-level partners, and the broader nutrition humanitarian community, as we collectively strive towards improving nutrition outcomes in the Sudan.

**Photo credits:** Cover: © UNICEF/UNI529935/Elfatih; page 1: © UNICEF/UNI545632/Elfatih; page 3: © UNICEF/UN0741880/Zehbrauskas; page 9: © WFP/Abubakar Garelnabei; page 18: © WFP/Abubakar Garelnabei; page 31: © UNICEF/UNI569492/Zakaria

---

# CONTENTS

<b>Acronyms</b>	<b>iv</b>
<b>Executive summary</b>	<b>1</b>
<b>Background: Pre-crisis nutrition situation</b>	<b>3</b>
<b>Introduction to the current conflict and nutrition situation</b>	<b>4</b>
<b>Methodology and limitations</b>	<b>6</b>
<b>State-level analysis</b>	<b>9</b>
<i>The Greater Kordofan region</i>	9
South Kordofan	9
North Kordofan	13
West Kordofan	15
Al Jazirah	16
<i>The Greater Darfur</i>	18
North Darfur	18
West Darfur	20
Central Darfur	23
East Darfur	24
South Darfur	26
Khartoum	27
<b>Areas with some humanitarian access</b>	<b>30</b>
<b>Financial needs</b>	<b>31</b>

---

## ACRONYMS

<b>ACF</b>	Action Contre La Faim
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CFSAM</b>	FAO Crop and Food Supply Mission
<b>CFSVA</b>	Comprehensive Food Security and Vulnerability Assessment
<b>GAM</b>	Global acute malnutrition
<b>GNC</b>	Global Nutrition Cluster
<b>INGO</b>	International non-governmental organization
<b>IPC</b>	Integrated Phase Classification
<b>MAM</b>	Moderate acute malnutrition
<b>MSF</b>	Médecins Sans Frontières
<b>MUAC</b>	Mid-upper arm circumference
<b>NIS-GTWG</b>	Nutrition Information System - Global Technical Working Group
<b>OTP</b>	Outpatient therapeutic programme
<b>SAM</b>	Severe acute malnutrition
<b>SC</b>	Stabilization centre
<b>UNICEF</b>	United Nations Children's Fund
<b>VAM</b>	Vulnerability, analysis and mapping
<b>WFP</b>	World Food Programme
<b>WHO</b>	World Health Organization
<b>WHZ</b>	Weight-for-height z-score





## EXECUTIVE SUMMARY

This report documents the deterioration in the nutrition situation in Sudan since the start of the conflict. It presents the results of a Nutrition Vulnerability Analysis (NVA) carried out between March and May 2024. The aim of this analysis is to fill a crucial gap in better understanding the nutrition situation, when limited anthropometric data are available, as well as to provide critical information regarding the drivers of acute malnutrition, and the forthcoming situation.

This analysis was carried out with technical support from the Nutrition Information System - Global Technical Working Group (NIS-GTWG) and was led by the Sudan National Nutrition Cluster. It aimed to analyse the nutrition situation, with a particular emphasis on the Greater Darfur, the Greater Kordofan, Al Jazirah and Khartoum states. The NVA adopted a multi-sectoral analytical approach focusing on the underlying determinants of acute malnutrition, namely food, services and practices. Due to the limited amount of newly collected quantitative data, the NVA focused mainly on gathering secondary data and qualitative information from key informant interviews and working sessions with partners in the field, with the aim of ensuring a common understanding of the current nutritional situation.

The results of the analysis show an alarming situation in the various factors contributing to acute malnutrition: massive and multiple population displacement, with additional burden on host communities, restricted humanitarian access, food insecurity, lack of access to drinking water and sanitation, and increased risks of communicable diseases due to the deteriorated capacities the health system. Although there are differences between the data and information available in the ten states, and recognizing the limitations of State level analysis, the nutrition security of children under 5 and pregnant and breastfeeding women is at serious risk. In Central, South and West Darfur, the information analysed led to the conclusion that the underlying factors have all already reached critical levels, or even “extremely critical” levels, as in West Darfur. In the Greater Kordofan, where the availability of information was more limited, the situation is not much better, with major concerns about the evolution of the nutritional situation, especially as the front lines of the conflict are very dynamic and have had recent negative repercussions on humanitarian access. Meanwhile, in Khartoum and Al Jazirah, all the information gathered points to an already critical situation for all the underlying determinants.

**Table 1: Summary of the nutrition situation (classification of the pathway per state)<sup>3</sup>**

Acute malnutrition pathways	Central Darfur	East Darfur	North Darfur	South Darfur	West Darfur	North Kordofan	South Kordofan	West Kordofan	Al Jazirah	Khartoum
<b>Food</b>	Likely "Critical"	Likely "Severe"	Insufficient information	Likely "Critical"	Likely "Extremely Critical"	Likely "Severe"	Likely "Critical" Likely "extremely critical" in IDPs	Insufficient information	Likely "Severe"	Likely "Critical"
<b>Services</b>	Likely "Critical"	Likely "Severe"	Insufficient information Likely "critical" in IDPs (Al Fasher)	Insufficient information	Likely "Critical"	Likely "Severe"	Likely "Critical" Likely "extremely critical" in IDPs	Insufficient information	Likely "Critical"	Likely "Critical"
<b>Practices</b>	Likely "Critical"	Likely "Moderate"	Insufficient information	Insufficient information	Likely "Critical"	Insufficient information	Likely "Critical" Likely "Critical" in IDPs	Insufficient information	Insufficient information	Likely "Severe"
<b>Nutrition outcome data</b>	Likely "Critical" <sup>1</sup>	Likely "Extremely Critical" <sup>2</sup>	Insufficient information Likely "Extremely Critical" in IDPs <sup>3</sup>	Likely "Severe" <sup>4</sup>	Insufficient information	Insufficient information	Insufficient information	Insufficient information	Insufficient information	Insufficient information

1 Data specific to Al Du'ayn locality, not representative of the entire state.  
2 Data specific to Zalingie locality with similar results expected in Azum and Wadi Salih but is not representative of the entire state.  
3 Data specific to ZamZam IDP camp in Al Fasher locality, not representative of the entire state.  
4 Data specific to the areas surveyed in Nyala city and camps, not representative of the entire state. Unweighted proxy-GAM prevalence for children aged 6-59 months is not high; however, the prevalence for younger children (aged 6-23 months) is already at critical levels (>15%).

Anthropometric results coming from some localized areas are a perfect illustration of the severity of the crisis:

- In the ZamZam camp (April 2024), in North Darfur state, a very high proportion, 29.4 per cent of children aged 6 to 59 months, are suffering from global acute malnutrition measured via mid-upper arm circumference (GAM-MUAC), including 8.2 per cent from severe acute malnutrition (SAM-MUAC). In addition, 33.3 per cent of pregnant and breastfeeding women suffer from malnutrition, indicating widespread vulnerability.
- In Central Darfur (Zalingie locality) where a SMART survey was conducted in March 2024, the prevalence of acute malnutrition measured via weight-for-height z-score (WHZ) has been estimated at 15.6 per cent – above the WHO emergency thresholds.
- In South Darfur (Nyala locality), where a cross-sectoral retrospective mortality and nutrition survey was conducted between February and March 2024, the unweighted proxy-GAM prevalence among children aged 6 to 23 months was 15.3 per cent, although the unweighted proxy-GAM among children aged 6 to 59 months was 5.6 per cent.

In other more accessible states, such as Blue Nile, Gedaref and Kassala, the recent SMART surveys conducted between December 2023 and February 2024 also revealed

a deterioration in the nutrition situation of children aged 6 to 59 months compared with previous assessments (S3M<sup>1</sup> - 2018). The GAM prevalence ranges from 9.6 per cent in Baw locality (Blue Nile) and Reifi Wad Elhilaiw locality (Kassala) to 15.3 per cent in Reifi Shamal Ad Delta (Kassala State).<sup>2</sup>

Over the coming months, the nutrition situation in the Sudan will be influenced by several factors, including the onset of the rainy season, which coincides with the lean season, and the expansion of the conflict zones, which dictate access for humanitarian assistance. States receiving limited or no humanitarian assistance will be particularly affected, as their ability to deal with the increasing burden of disease and food insecurity levels, compounded with the high demand from the high number of internally displaced persons (IDPs), is limited. Therefore, without changes to the current context, a rapid deterioration is expected in the nutrition status of children under the age of 5 years and pregnant and breastfeeding women. In areas with better humanitarian access, the speed and scale of the deterioration may be slower, but nonetheless will affect nutrition security among the populations in the short-, medium- and long-term.

The survival, nutritional well-being, growth and development of children in the Sudan are at risk and must be protected as a matter of urgency.

1 Simple, Spatial, Survey Method (S3M)  
2 See detailed results in the section, "Areas with some humanitarian access".  
3 Please refer to the methodology section, "Reliability and severity classification."





## BACKGROUND: PRE-CRISIS NUTRITION SITUATION

The nutrition situation in the Sudan was concerning even before the current crisis. Available prevalence data (2018) estimated that GAM in children under the age of 5 years was at 13.6 per cent and stunting at 36.4 per cent. Malnutrition among pregnant and breastfeeding women was also high, at 8.6 per cent. The country had the fourth largest burden of SAM in children under 5 in Africa. More than 3 million children required supplementation and treatment for acute malnutrition: 611,000 with SAM (91,730 needing inpatient care for medical complications), and 2.4 million with moderate acute malnutrition (MAM). Additionally, 936,000 pregnant and breastfeeding women required nutrition support for acute malnutrition.<sup>4</sup>

Despite the needs, there were shortfalls in funding for supplementation and treatment services, impacting 53 per cent of the national targeted supplementary feeding programmes in more than 100 localities in 2022 and 2023.

An estimated 11.7 million people – more than 24 per cent of the population – experienced food insecurity between July and September 2022, including 3.1 million people in IPC Phase 4 (Emergency) and 8.5 million in IPC Phase 3 (Crisis).<sup>5</sup> In 2022, drought affected 115 localities in 14 states, while food security was undermined by poor harvests, population displacement (mostly from the Darfur states),

economic decline, inflation, and the impact of the war in Ukraine on wheat imports.

As a proxy of access to health services, measles vaccination rates in 2022 were at 81 per cent in children under age 1 for the first dose, and 63 per cent for the second dose; this falls far short of the 95 per cent recommended level of coverage. A polio outbreak was declared in 2022, as well as 1.9 million cases of malaria (a two-fold increase from the previous year) and suspected cases of dengue fever.

Water was a scarce resource before the current crisis, with 11 million people in need of emergency water, sanitation and hygiene (WASH) assistance at the end of 2022 due to drought, flooding, increasing displacement in Darfur and Kordofan States, and the influx of refugees from Ethiopia and South Sudan.

Conflict and displacement were present prior to the current situation. In November 2022, 76 areas were declared hotspot areas that experienced recurrent incidents of intercommunal violence and factional fighting. This had led to more than 3.7 million internally displaced people, mainly from the Darfur and Kordofan regions. A further 1.1 million refugees were hosted in the Sudan, mainly from South Sudan, Ethiopia and Eritrea.

4 Reference: OCHA, Humanitarian Needs Overview 2023. November 2022; [https://reliefweb.int/report/sudan/sudan-humanitarian-needs-overview-2023-november-2022?gad\\_source=1&gclid=CjwKCAjwupGyBhBBEiwA0UcqaJUVCsvCuyz\\_SOMnZGQOqCOdtCEetQXdD13V3LHerRtoIfVZn-HUapxoCAjAQAvD\\_BwE](https://reliefweb.int/report/sudan/sudan-humanitarian-needs-overview-2023-november-2022?gad_source=1&gclid=CjwKCAjwupGyBhBBEiwA0UcqaJUVCsvCuyz_SOMnZGQOqCOdtCEetQXdD13V3LHerRtoIfVZn-HUapxoCAjAQAvD_BwE)

5 Sudan: Acute Food Insecurity Situation April - May 2022 and Projections for June - September 2022 and October 2022 - February 2023. June 2022; <https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155716/?iso3=SDN>

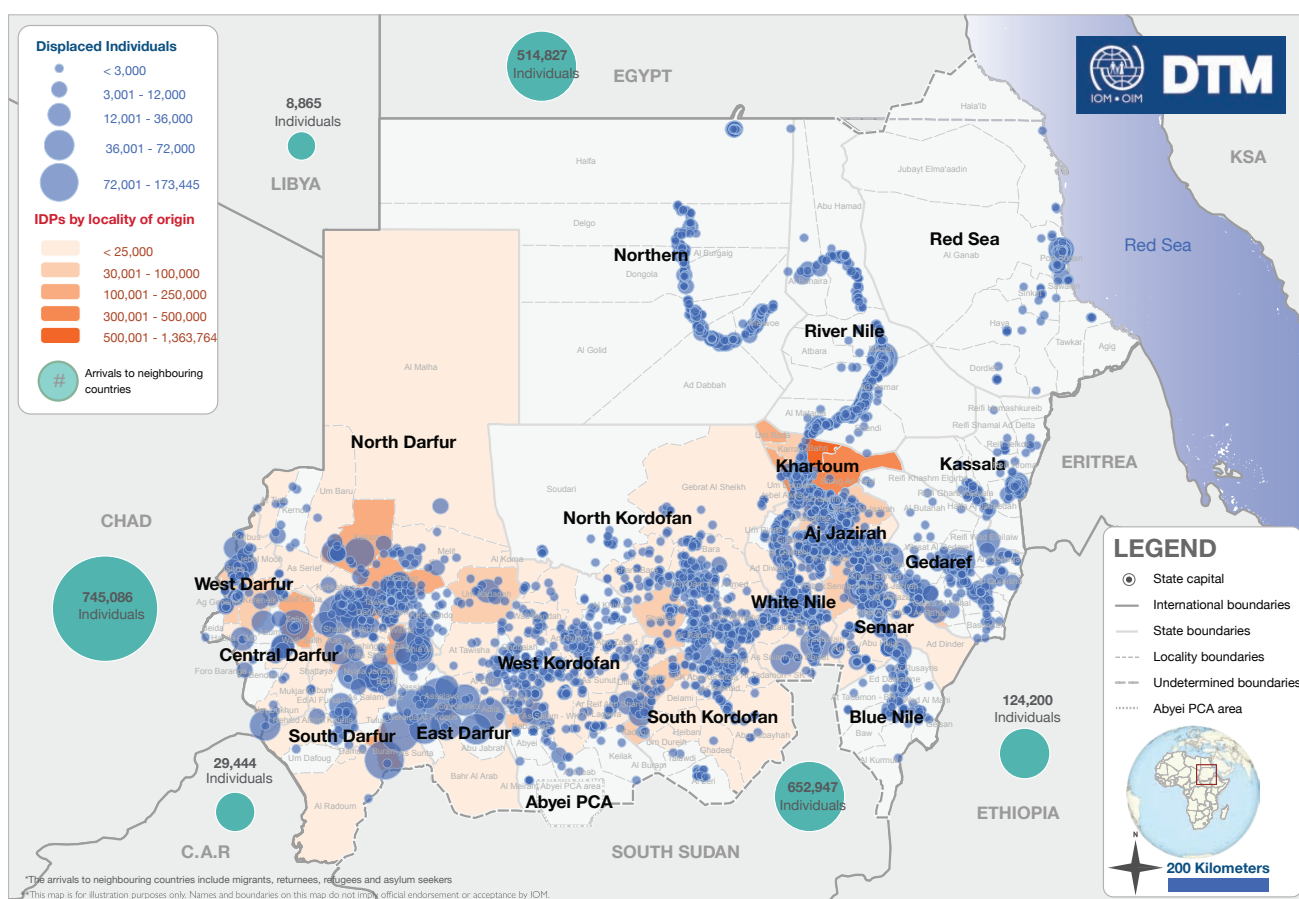
# INTRODUCTION TO THE CURRENT CONFLICT AND NUTRITION SITUATION

The conflict that began on 15 April 2023 between the Sudanese Armed Forces and the Rapid Support Forces in Khartoum has spread rapidly to other states in the country. After a year of war, more than 6.8 million people have been displaced<sup>6</sup> within the country's borders fleeing insecurity (map 1), while another 2.1 million people have sought refuge in Chad, South Sudan, Egypt, Ethiopia and the Central African Republic. Large parts of the country continue to be ravaged by ongoing violence, including intense urban warfare, bombings and air strikes.

The conflict has sharply increased the nutrition vulnerability of women and children. The results of the December 2023 IPC showed increasing food insecurity and malnutrition across the country. Between October

2023 and February 2024, 17.7 million people in the Sudan (37 per cent of the population) were expected to face high levels of acute food insecurity (IPC Phase 3 or above), including 4.9 million (10 per cent in Phase 4 – Emergency).<sup>7</sup> The agricultural sector, by far the largest provider of jobs in what was once the breadbasket of Africa, has been reduced to scorched earth. The existing factories have been decimated by bombings and the country's economy is facing ruin.

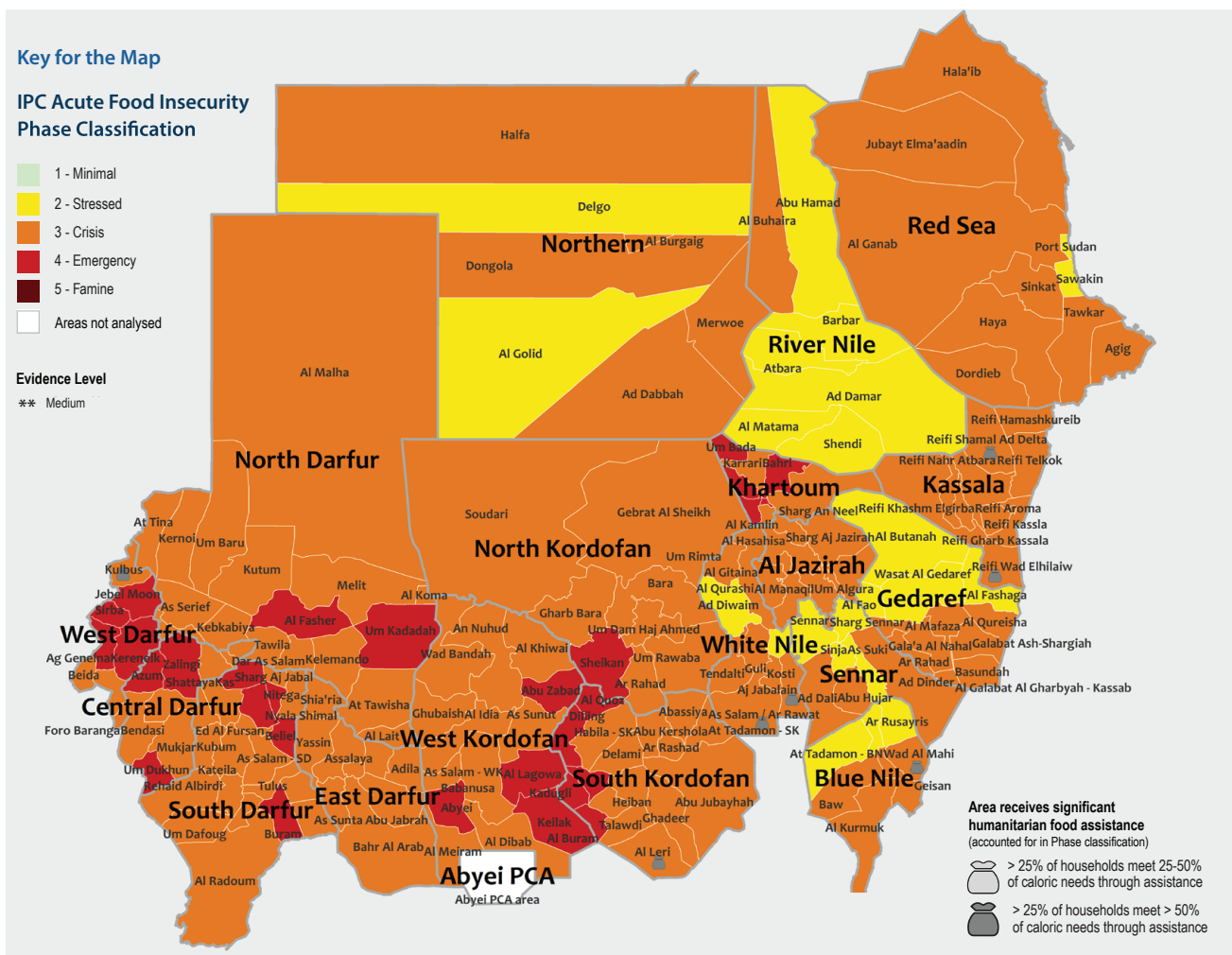
In March 2024, the IPC released an alert<sup>8</sup> highlighting the severity of the situation in Khartoum and Al Jazirah states, as well as Greater Darfur and Greater Kordofan. Levels of nutrition vulnerability are not uniform across the country.



**Map 1: Displacement across the Sudan. International Organization for Migration, Displacement Tracking Matrix, 25 April 2024.**

- 6 Displacement Tracking Matrix Sudan – Monthly displacement overview
- 7 Sudan: Acute Food Insecurity Projection Update for October 2023 - February 2024. December 2023 (<https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156730/?iso3=SDN>)
- 8 Sudan: IPC Alert: A conflict surge threatens millions to slide into worst levels of acute food insecurity and malnutrition. March 2024 (<https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156903/>)





**Map 2: Acute Food Insecurity Map for the Sudan (October 2023 – February 2024), IPC, December 2023.**

Furthermore, insecurity has made the provision of health care and nutrition services increasingly difficult. According to WHO, about 70 per cent of health facilities and more than two-thirds of the main hospitals in the conflict-affected areas are either non-functional, or destroyed, with staff fleeing to safer areas. Those that are still functioning are in danger of closing due to shortages of medical staff, supplies, drinking water, and electricity. Ongoing attacks on health facilities and warehouses are preventing patients and health staff from accessing hospitals and provide/receive care. The disease surveillance system has also been disrupted, posing a serious problem for detecting, confirming and monitoring outbreaks of infectious diseases.

Lack of access to health services, combined with displacement, overcrowding, and outbreaks of preventable and treatable diseases such as measles, malaria and cholera (having already reached 11,000 cases, according to the Ministry of Health), increases the risk of morbidity and mortality among children under 5. Shortages of medical and nutrition supplies, as well as insufficient access to clean water, sanitation and hygiene supplies and services, threaten the health of the overall population.

As of March 2024, the National Nutrition Cluster estimated that 3.66 million children under 5 and 1.2 million pregnant and breastfeeding women are acutely malnourished across the Sudan, representing an increase of over 22 per cent compared to the beginning of 2023.<sup>9</sup>

9 United Nations Office for the Coordination of Humanitarian Affairs (OCHA). Sudan Humanitarian Needs and Response Plan 2024 (December 2023) <https://www.unocha.org/publications/report/sudan/sudan-humanitarian-needs-and-response-plan-2024-december-2023>

# METHODOLOGY AND LIMITATIONS

## Methodology

Access issues constrained the collection of anthropometric data in many areas of the Sudan. Therefore, a NVA working group was set up in March 2024 under the lead of the National Nutrition Cluster, bringing together national, regional and global nutrition information system (NIS) experts to conduct a Nutrition Vulnerability Analysis (NVA).

The NVA approach is specifically tailored for contexts where humanitarian access is limited and has hampered large-scale anthropometric data collection. The NVA proposes a new way of analysing the nutrition situation by focusing on the underlying determinants of acute malnutrition, namely food, services and practices. Limited access has hampered the collection of quantitative data, thus increasing the reliance on qualitative information from partners working in the field with expertise in either food security, health and WASH interventions. While recognizing the limitations, the aim of the NVA is to reach a common understanding of the current nutrition situation.

## The following steps were undertaken:

**STEP 1:** A mapping was conducted of all existing primary data on the drivers of acute malnutrition (Table 2). While anthropometric data collection was incorporated into the 2024 WFP Comprehensive Food Security and Vulnerability Assessment (CFSVA), the quality in most States was not acceptable; therefore, these data were not used in the NVA. Some data points relating to food, services and practices pathways were made available through the CFSVA; however, they covered a very small number of the areas targeted by the exercise, and the sample sizes were very limited. A number of screening results have been shared through the NVA working sessions by operational partners; however, the group decided not to use them until more information becomes available regarding their quality parameters.

**Table 2: Mapping of primary data points used for the NVA**

State	Anthropometric data	Food pathway	Services pathway	Practices pathway
Central Darfur	* SMART (Zalingie locality), AAH – March 2024	* CFSVA WFP * Key Informant Interview (2) * Qualitative information gathered through working session with field partners	** CFSVA WFP * SMART (Zalingie locality), AAH – March 2024 * Key informant interview (2) * Qualitative information gathered through working session with field partners	* CFSVA WFP * Key informant interview (2) * Qualitative information gathered through working session with field partners
North Darfur	* 1 mass MUAC screening (ZamZam camp), MSF – April 2024	* Key informant interview (2) * Qualitative information gathered through working session with field partners	* Joint Rapid Need Assessment in El Fasher rural. GOAL - April 2024 * 1 Mass MUAC Screening (ZamZam camp), MSF – Apr 2024 * Key Informant Interview (2) * Qualitative information gathered through working session with field partners	* Joint Rapid Need Assessment in El Fasher rural. GOAL - April 2024 * Key informant interview (2) * Qualitative information gathered through working session with field partners
East Darfur	* SMART (Ad Du'ayn locality), CARE – September 2023	* CFSVA WFP * CARE Rapid Gender Evaluation * Key informant interview (1) * Qualitative information gathered through working session with field partners	* CFSVA WFP * CARE Rapid Gender Evaluation * Key informant interview (1) * Qualitative information gathered through working session with field partners	* CFSVA WFP * CARE Rapid Gender Evaluation * Key informant interview (1) * Qualitative information gathered through working session with field partners

<b>South Darfur</b>	* Cross-sectional retrospective mortality and nutrition survey in Nyala city and Beliel and Otash, MSF-OCA - April 2024	* Key informant interview (1) * Qualitative information gathered through working session with field partners	* Cross-sectional retrospective mortality and nutrition survey in Nyala city and Beliel and Otash, MSF-OCA - April 2024 * Key informant interview (1) * Qualitative information gathered through working session with field partners	* Key informant interview (1) * Qualitative information gathered through working session with field partners
<b>West Darfur</b>		* CFSVA * Key informant interview (1) * Qualitative information gathered through working session with field partners	* Key informant interview (1) * Qualitative information gathered through working session with field partners	* Key informant interview (1) * Qualitative information gathered through working session with field partners
<b>South Kordofan</b>		* CFSVA WFP * Rapid internally displaced persons assessment (Samaritan Purse, March 2024) * Key informant interview (1) * Qualitative information gathered through working session with field partners	* CFSVA WFP * Rapid internally displaced persons assessment (Samaritan Purse, March 2024) * Key informant interview (1) * Qualitative information gathered through working session with field partners	* CFSVA WFP * Rapid internally displaced persons assessment (Samaritan Purse, March 2024) * Key informant interview (1) * Qualitative information gathered through working session with field partners
<b>West Kordofan</b>		* Qualitative information gathered through working session with field partners	* Qualitative information gathered through working session with field partner	* Qualitative information gathered through working session with field partner
<b>North Kordofan</b>		* Qualitative information gathered through working session with field partner	* Qualitative information gathered through working session with field partner	* Qualitative information gathered through working session with field partner
<b>Al Jazirah</b>		* Qualitative information session	* Qualitative information session	* Qualitative information session
<b>Khartoum</b>		* Key informant interview (3) * CARE Rapid Gender Evaluation * Qualitative information gathered through working session with field partner	* Key informant interview (3) * CARE Rapid Gender Evaluation * Qualitative information gathered through working session with field partner	* Key informant interview (3) * CARE Rapid Gender Evaluation * Qualitative information gathered through working session with field partner

**STEP 2:** Key informant interviews targeting staff from international non-governmental organizations (INGOs) and NGOs part of the National Nutrition Cluster were conducted as a means of triangulating the information obtained on nutrition vulnerabilities. A semi-structured interview guide was developed and validated by the Sudan NIS-TWG. Questions focused mainly on the description of the current situation in terms of nutrition, food, health and WASH conditions; any changes observed since the start of the conflict in the areas; and the outlook of the nutrition situation. In addition, and with support from the National Cluster team, the use and integration of any available anthropometric data (mainly from surveys, rapid

assessments and screenings) was discussed through the National Cluster team based on quality review criteria.

**STEP 3:** All identified data points and information were included into a state-level analytical framework and were discussed through four organized NVA working sessions involving the Nutrition Cluster Team and partners currently on the field. Where possible, information on localities were documented. The analysis was conducted through the food, services and practices pathways, with a consensus-based approach applied to examining how the drivers of acute malnutrition evolve (Box 1).



### Box 1: Analytical framework methodology

The NVA tool was organized following the existing IPC analytical framework<sup>1</sup> for acute malnutrition. For the 10 states of the Sudan with limited humanitarian access (Greater Darfur, Greater Kordofan, Al Jazirah, and Khartoum), different categories of data were included: demographic; outcome indicators; food consumption and dimensions of food security; care and feeding practices; health status; health services and environmental health; mitigating factors; and other qualitative information. For all available data points, the source and collection date are listed, as these are essential criteria for assessing the reliability of the data.

All the available data points were discussed in plenary working sessions involving operational partners to allow for the inclusion and discussion of qualitative information on the current situation. Through those working sessions, discussions focused on the representativeness of the data and information. A “likely” severity classification was assigned for each of the three pathways analysed per state and reached by technical consensus of key experts of the NVA working group.

#### Reliability scoring and Severity ranking

Given the limited quantitative data available on the drivers of acute malnutrition, the Sudan NVA relied

heavily on qualitative information from key informant interviews and implementing partners. In this respect, no “reliability scoring” method was applied, but rather a convergence of evidence approach was taken. The “severity” ranking was also adapted to apply less strict terminology so as not to be too restrictive, while still ensuring that degrees of vulnerability are presented.

#### Insufficient sample

The five-tier **SEVERITY CLASSIFICATION** aims to inform decision-making on the level of nutrition insecurity among children under 5 and pregnant and breastfeeding women. It represents the final stage of the neutral and unbiased analytical process that relies on a review of available evidence on drivers of acute malnutrition at a single point in time.

Severity ranking
Likely "Extremely Critical"
Likely "Critical"
Likely "Severe"
Likely "Moderate"
Likely "Low"
Insufficient sample

**STEP 4:** Presentation and discussion of the analysis results with the Strategic Advisory Group of the National Nutrition Cluster for comments, adjustments and final endorsement.

**STEP 5:** Finalization and final endorsement of the nutrition vulnerability analysis and conclusions.

### Limitations

Several limitations were noted and taken into consideration when analysing the results.

- **Limited available sources.** Data and information included in the analysis come from limited available sources. Real-time data collection is extremely challenging in the Sudan. As such, the analysis and data presented are not representative of all localities in one state.
- **Small population sample.** The WFP CFSVA was mostly limited to accessible states and localities, with small numbers of respondents.

- **Limited screenings.** Screening data started to be collected but was not yet ready to be integrated into the analysis, since quality parameters still need to be verified.
- **Heavy reliance on partner experts/contextual opinion.** The data and information included in the analysis are primarily qualitative with insights from partners currently operating in the field. As such, the analysis presents an overview of nutrition vulnerability based on partners’ places of operation and their areas of expertise. It does not provide an exhaustive and accurate analysis of the situation at disaggregated level.



## STATE-LEVEL ANALYSIS

The NVA assesses the current nutrition situation in the face of the underlying determinants of acute malnutrition. It focuses on the hardest-to-reach areas, and those that have been flagged by the IPC as facing severe food insecurity, namely the Greater Darfur, the Greater Kordofan, Khartoum and Al Jazirah States.

### Areas of limited humanitarian access

#### The Greater Kordofan region

Greater Kordofan has experienced escalating conflict and insecurity since the end of 2023. Although there is insufficient access and limited humanitarian presence, the situation could be similar, or even worse, than in neighbouring states, particularly as the front line of the conflict has moved recently to these regions.

As of 18 April, 2024, the number of internally displaced people is around 500,000,<sup>10</sup> mainly from Khartoum (50 per cent), putting pressure on fragile basic social services. Access has been severely restricted due to insecurity and roadblocks, especially in North and South Kordofan, making it increasingly difficult to transport medical and

nutritional commodities and to supply markets with food commodities.

#### South Kordofan

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
	Likely “Critical”	Likely “Critical”	Likely “Critical”	Insufficient information
<b>South Kordofan</b>	Likely “Extremely Critical” in IDPs	Likely “Extremely Critical” in IDPs	Likely “Extremely Critical” in IDPs	Insufficient information

South Kordofan State had remained relatively secure until the end of 2023. However, the recent intensification of fighting, especially in the western corridor (including Kadugli, the state capital) and the blockading of key arterial roads, are likely to exacerbate pre-existing food, health, and nutrition vulnerabilities; increase the scarcity of all basic commodities; and constrain access to social services. As of April 18, 2024,<sup>11</sup> almost 200,000 internally displaced people have been recorded in this state, with

<sup>10</sup> IOM, DTM – April, 18th, 2024

<sup>11</sup> <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

63 per cent originating from other locations within South Kordofan, and an estimated 33 per cent from Khartoum. Internally displaced people from South Kordofan have been displaced primarily from conflict hotspots, including Habila (34 per cent), Kadugli (21 per cent), and Abassiya (16 per cent). The International Organization for Migration (IOM) estimates that 56 per cent of internally displaced people are sheltered in host communities, 34 per cent in open informal settlements, and 11 per cent in schools or other public buildings.<sup>12</sup> IOM field teams highlighted that *“the ongoing clashes and widespread insecurity restricted access to service providers, especially in remote areas. There were also reports of increased protection concerns among internally displaced people trapped in conflict-stricken areas.”*

In March 2024, a Rapid internally displaced persons assessment was conducted by Samaritan Purse<sup>13</sup> in six settlements (eight localities of the Western Corridor), covering 1,076 households. Results showed that 57.5 per cent of households facing internal displacement were female-headed, indicating an elevated risk of vulnerability. This was exacerbated by the fact that women in the Sudan traditionally own fewer economic resources and have a lower agricultural output than men.

### Food (pathway)

Conflict and associated displacement, attacks on civilians and looting of property, have had a considerable impact on agriculture. In October 2023, Al Buram, Al Quoz, Ar Reif Ash Shargi, Drilling, and Kadugli localities were projected to be in IPC Phase 4 (IPC-AFI October 2023); since then, these localities have seen higher numbers of conflict incidents than the rest of the state, low agricultural production and poor humanitarian access.

Data collected through the WFP CFSVA 2024 indicate that 48 per cent of households (n=904) had a poor food consumption score, with 41 per cent having consumed four or fewer food groups within the 24 hours preceding the survey. Some locality-dependent variations were observed. In Ar Reif Ash Shargi and Kadugli (the localities most badly affected by conflict and hosting a large number of internally displaced people) 23 per cent of households (N=412) had a poor food consumption score, while 34 per cent reported having consumed four or fewer food groups in the 24 hours preceding the survey. In Al Leri, Ghadeer and Talawdi localities, 20 per cent (n=160) of households had a poor food consumption score, and 51 per cent had consumed four or fewer food groups over the previous 24 hours. This indicates that dietary conditions have already deteriorated, and that people could be engaging in coping

strategies to ensure that they have sufficient quantity and quality of food.

The recent report on Livelihoods in Sudan Amid Armed Conflict<sup>14</sup> (published in April 2024 by the United Nations Development Programme (UNDP) and the International Food Policy Research Institute (IFPRI)), presents additional information on income: 24.6 per cent of the sampled households (N=126) have employed three or more livelihood coping strategies since the start of the conflict, and 45.2 per cent employed one or two strategies. In 2023, the Federal Ministry of Agriculture and Forestry was unable to distribute seed due to the ongoing conflict. The Food and Agriculture Organization of the United Nations (FAO) distributed 323.05 tonnes of sorghum seed in the traditional rain-fed sector of Southern Kordofan, but no information was available on the number of small-scale farmers affected, nor were any data available to compare the estimated “plantable” area with previous years in the state.<sup>15</sup>

The state of South Kordofan is considered the “breadbasket” of the Sudan. However, the planted area for both millet and sorghum has decreased by 52 per cent compared to the 2017–2021 average, indicating a reduction in local food production that poses a threat to food availability and affordability. Sorghum prices were 153.1 per cent higher in January 2024 than in January 2023.<sup>16</sup> Additionally, the blocking of the main roads supplying South Kordofan hinders access to imported food and agricultural inputs, with the risk of further exacerbating the already fragile food security situation and leaving more households struggling to obtain a sufficient and diverse diet for young children as well as pregnant and breastfeeding women.

In March 2024, REACH carried out a needs assessment in hard-to-reach areas in South Kordofan<sup>17</sup> where 733 surveys were conducted, capturing information about 124 settlements across six localities (Algoz, Alreif Alshargi, Delami, Dilling, Habila and Kadugli). In 78 per cent of the assessed settlements, key informants reported that access to livelihoods had worsened in the 30 days prior to data collection. In addition, in those specific settlements (N=93), the largest impacts on livelihoods were the loss or destruction of properties (72 per cent); loss or decrease of assistance from relatives (65 per cent); barriers to movement due to insecurity (65 per cent); and rising prices (56 per cent). The same report highlighted that in 87 per cent of the 124 settlements, key informants reported that some people were not able to access enough food in the 30

12 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08>

13 <https://reliefweb.int/report/sudan/rapid-idp-assessment-report-kordofan-region-sudan-april-2024>

14 <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

15 FAO, 2023 Crop and food supply assessment mission (CFSAM)

16 WFP, Food Prices Monitoring, January 2024

17 <https://reliefweb.int/report/sudan/needs-assessment-hard-reach-areas-south-kordofan-sudan-presentation-key-findings-april-2024>





and fear for safety or security (26 per cent). Furthermore, in 78 per cent of the 124 settlements, key informants reported that some population groups were more likely to face such barriers, especially children under 5 and pregnant or breastfeeding women. In 95 per cent of assessed settlements, key informants reported that nutrition programmes were unavailable in the 30 days prior to data collection. Health needs were reported as a priority in almost all settlements (90 per cent), while nutrition needs were reported as a priority in 23 per cent of settlements, and WASH needs in 31 per cent of settlements.

The low level of immunization coverage recorded in the state by the end of 2023,<sup>25</sup> with 33 per cent measles coverage (ranging from 17 per cent in Habila to 65 per cent in Kadugli locality) is another indication of the limited and disparate access to health services. Low coverage and poor access increase the risk of large outbreaks, especially in areas where there is limited humanitarian access. One key informant mentioned: “*now [that] the fighting has started in South Kordofan, this is likely to enter a phase where diseases and morbidities will worsen because of lack of treatment for those with moderate kinds of conditions, and the risk [is that] they move into severe conditions*”. Some sources have reported 27 cases of measles among children in the Delling internally displaced person’s camp, while cases of rabies were also recorded. This situation is particularly worrying considering the acute shortage of medicines, vaccines and other medical aids.<sup>26</sup>

In the 2024 WFP CFSVA, data on disease in children aged 6–59 months were collected. Unfortunately, the sample was insufficient to disaggregate in the various areas. However, of the 304 children aged 6–59 months who were part of the sample, 14 per cent reported having been sick with at least one disease in the preceding two weeks. While the very limited sample does not allow any conclusions to be drawn, it provides an outlook of the situation, with 13 per cent reporting cases of diarrhoea and 28 per cent reporting fever in the previous two weeks. From the Samaritan’s Purse Rapid International Displaced Person’s Assessment,<sup>27</sup> the health situation was alarming, with 82.6 per cent of internally displaced people saying that diarrhoea was one of the most common illnesses they had encountered while in the internally displaced person’s camps, followed by malaria (80.1 per cent) and acute respiratory infections (51.1 per cent). No information was available regarding the recall period for the question related to morbidity. However, in overcrowded settlements, where adequate

sanitation infrastructure is lacking, and access to mosquito nets is limited, the risk of seeing an increase in these diseases is high. These findings were complemented by reports from IOM field teams who explained:<sup>28</sup> “*medicine prices remained unaffordable to many internally displaced households, and ongoing clashes and widespread insecurity was restricting access to service providers, especially in remote areas.*”

With the onset of the rainy season, the long distances required to reach health services for internally displaced people and communities living in hard-to-reach areas is likely to become an increasingly significant barrier to accessing health care. The seasonal peak of malaria is expected in the coming months and the lack of access to services and stock-outs of key medicines will increase the risk of illness among children under 5. The situation will be further exacerbated by decreased immunity associated with acute malnutrition, which is likely to increase the overall prevalence of wasting in the population.

### Practices (pathway)

Very little information was available on any changes in child feeding practices that may impact acute malnutrition. In the WFP CFSVA 2024, data were collected on the number of children aged 6 to 23 months being fed the minimum acceptable diet and the number of pregnant and breastfeeding women consuming diets with the minimum dietary diversity. For young children, the sample size was too small (N= 29) to inform the analysis. For pregnant and breastfeeding women, the sample size (N=186) was also limited and therefore only provided a limited overview of the situation. According to the results, only 11.1 per cent of pregnant and breastfeeding women ate an acceptable diet, increasing their risk for complications during pregnancy and delivery and low birthweight in their children.

In the WFP CFSVA, data were also collected on aspects related to access to WASH services. Results show that 6 per cent of the respondents (N=904) used unprotected drinking water (as compared to 12 per cent who consumed improved drinking water, from the S3M II 2018<sup>29</sup>), and only 20 per cent used an improved toilet facility (N=904). When looking at the results from the REACH needs assessment in hard-to-reach areas of South Kordofan,<sup>30</sup> findings showed that 50 per cent of key informants reported that the primary source of drinking water used by most households was unimproved water source,<sup>31</sup> and 67 per cent reported that most of the population was primarily

25 UNICEF Immunization Program Data 2023

26 <https://reliefweb.int/report/sudan/measles-spreading-sudan-rabies-south-kordofan>

27 Rapid IDPs assessment conducted by Samaritan Purse (March, 2024)

28 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

29 Simple, Spatial, Survey Method (S3M) for Sudan

30 <https://reliefweb.int/report/sudan/needs-assessment-hard-reach-areas-south-kordofan-sudan-presentation-key-findings-april-2024>

31 As per the REACH assessment, unimproved water source is defined as “a source not protected from the outside (unprotected well, unprotected spring, traditional dug well, etc.)”

using an unimproved sanitation facility.<sup>32</sup> Among internally displaced people, 91.7 per cent of households reported using some form of improved water source (tube wells/boreholes, protected dug wells or tanker trucks), and 84.5 per cent reported practising open defecation.

Once the rainy season starts, the proportion of households collecting water from riskier unprotected sources (such as surface water) will likely increase, especially among internally displaced people, increasing the risk of waterborne disease transmission. Limited access to improved sanitation, especially in densely populated settlements, will significantly increase the risk of transmission of faecal-oral transmission of WASH-related illnesses.

### Outcomes of acute malnutrition

No recent nutrition survey was conducted in the South Kordofan State, and no screening data points were available for use in this NVA.

### North Kordofan

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
North Kordofan	Likely “Severe”	Likely “Severe”	Insufficient information	Insufficient information

The violence that started in Khartoum quickly spread to other states, including North Kordofan, resulting in mass displacement and the breakdown of essential services. North Kordofan was a logistical hub; key roads and an airport connect Khartoum to the Darfur region, and are a strategic export route for agricultural products, oil and gold.<sup>33</sup> The airport in El Obeid, a key transport hub between eastern states and Darfur, has been destroyed, constraining the free movement of people and goods.

As of 18 April, 2024,<sup>34</sup> North Kordofan is home to 174,000 displaced people, mainly from Khartoum (70 per cent), followed by North Kordofan State (26 per cent) and South Kordofan (3 per cent). It is estimated that almost 80 per cent of internally displaced people are sheltered in host communities, primarily concentrated in the southern localities: Ar Rahad, Bara and Um Rawaba localities. Out of the estimated 72,157 individuals who originated from North Kordofan, the majority (81 per cent) are from Sheikan locality and Ar Rahad locality, where clashes between Sudanese Armed Forces and Rapid Support Forces previously occurred. Of the eight localities in this state, and

based on qualitative information shared by operational partners, six are currently considered difficult to access (Ar Rahad, Bara, Gebrat al Sheikh, Sheikan, Soudari and Um Rawaba) due to insecurity, while three of these host the largest number of displaced people (Ar Rahad, Bara and Um Rawaba).

### Underlying determinants of acute malnutrition

#### Food pathways

There was no CFSVA conducted in North Kordofan, and little information was made available regarding changes in the diets of children under 5 and pregnant and breastfeeding women through the NVA working sessions organized with operational partners.

However, the Famine Early Warning Systems Network warned of intensive looting of shops and stores that occurred in El Obeid, the capital of North Kordofan, which has considerably weakened the ability of traders and suppliers to continue their commercial activities.<sup>35</sup> The insecure environment has direct impacts on all localities, which are becoming increasingly isolated.

North Kordofan was primarily supplied from Khartoum State, but insecurity and blocked roads have led to increasing scarcity of basic goods and foods in the markets, while food prices continue to rise. The movement of foods and goods from one locality to another remains extremely difficult, raising concerns about accessibility and affordability of food, especially in remote areas. As highlighted by WFP food price monitoring (in January 2024), there was an 186 per cent increase in wheat prices between January 2023 and January 2024. Some informants reported milk and sugar shortages in the markets.

The impact of increased food prices and reduced quantities are compounded by low purchasing power and limited opportunities for individuals to earn money, with the loss of household assets, as mentioned by partners in the field. Furthermore, the report on Livelihoods in Sudan Amid Armed Conflict (April 2024)<sup>36</sup> found that 62.6 per cent of households in North Kordofan State (N=302) have seen their income decline since before the conflict, while more than 50 per cent reported that their farming work was disrupted. According to the 2023 FAO Crop and Food Supply Mission (CFSAM),<sup>37</sup> a total of 645.15 tonnes of sorghum seeds have been distributed in North Kordofan; however, limited information was available regarding the number of smallholder farmers reached. The CFSAM

32 As per REACH assessment, unimproved sanitation are “facilities that does not hygienically separate human excreta from human contact (pit latrine without slab or platform, hanging latrines, bucket latrines, etc.)”

33 <https://reliefweb.int/report/sudan/acaps-briefing-note-sudan-north-kordofan-pre-crisis-and-current-situation-10-october-2023>

34 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

35 <https://fews.net/node/31635/print/download>

36 <https://reliefweb.int/report/sudan/livelihoods-sudan-amid-armed-conflict-evidence-national-rural-household-survey>

37 <https://openknowledge.fao.org/server/api/core/bitstreams/015d7cac-efbc-4b49-88a6-c1c74cd3cb3e/content>



report highlighted as well that "market availability of fuel for agricultural operations was mostly unavailable in areas directly involved by the conflict, such as North Kordofan State," and stressed that in North Kordofan, no sorghum cultivation was reported in the 2023 summer cropping season.

In addition, IOM reported at the end of April 2024<sup>38</sup> that among the 635 internally displaced people interviewed as key informants, 92 per cent mentioned food as their priority need. The level of humanitarian assistance seems to be very limited, with no partners recorded as having food security interventions in this state.<sup>39</sup>

The deterioration of food security in North Kordofan is likely to continue because of widespread looting and displacement, which will undermine the harvest and disrupt markets. This situation could lead to worsening food insecurity, increasing the risk of a deterioration in the nutrition status of children under 5, as well as pregnant and breastfeeding women.

### Services (health pathways)

As previously noted, no CFSVA was conducted in North Kordofan, therefore quantitative information related to the services pathway and the changes in health conditions among children under 5 is very limited. From the qualitative information gathered, the health system is struggling with a lack of health staff and shortages of critical medicines; indeed, one key informant shared "*surgical products and general medicines are increasingly difficult to find on the market*". The very low measles vaccination coverage rate (33 per cent) recorded in 2023<sup>40</sup> is a strong indicator of poor access to primary health care and preventive services, as well as the poor level of functionality of the health system. UNICEF has recently managed to deliver medical supplies to some hard-to-reach localities using private transporters, but finding these transporters is becoming more and more difficult due to the high risks of looting and loss. In addition, frequent internet and telecommunication outages across many locations hinder humanitarian services.

While most of the health facilities (232) are reported as functional, supply shortages induced by insecurity, and restricted movements from El Obeid to other localities, have reduced their ability to provide health care services. The number of functional outpatient therapeutic programmes (OTPs) decreases from 77 to only 22 programmes (28 per cent). Initially there were eight stabilization centres (SCs) in North Kordofan, but only three remain fully functional in providing care for complicated

cases of SAM. In localities such as Bara, Gebrat Al Sheikh and Um Rawaba (east corridor), no OTPs and SCs are operational despite these localities hosting large numbers of internally displaced people. According to IOM,<sup>41</sup> 59 per cent of internally displaced people who were interviewed as key informants (N=635) stressed health care as their priority need, while 25 per cent highlighted that health care was not available.

According to the Health Cluster, only one INGO is supporting health interventions in the state, while the Nutrition Cluster reported that two partners were currently operational. Due to the scarcity of data and key informants in this state, little additional information was obtained. However, the challenges in accessing health care and the limited number of operational partners are likely to undermine the health conditions of the population. With the onset of the rainy season, it is expected that road access challenges will be amplified (especially in the northern regions), which will further strain humanitarian operations, while the risk of outbreak will be higher.

In a context where 43 per cent<sup>42</sup> of the population is expected to face high levels of food insecurity (Phase 3 and above), the number of acute malnutrition cases among children under 5 and pregnant and breastfeeding could rise rapidly, without capacities to detect and treat, leading to increased risk of mortality.

### Practices (care pathways)

No information was available on any changes in child feeding practices that could impact acute malnutrition. However, it has been reported that power cuts are hampering access to water, with pumps no longer able to operate. According to IOM, out of 635 internally displaced people who were interviewed as key informants, 40 per cent mentioned that water is available but too far from their location, and 40 per cent responded that water is not affordable. In El Obeid, the capital of the state, the main water sources are under the control of the Rapid Support Forces, and residents seem to be relying solely on water tankers. This situation raises fears of an increase in waterborne diseases in the coming months, which could lead to an increased number of acute malnutrition cases, especially among children under 5.

### Outcomes of acute malnutrition

At this time, there is no recent outcome data on acute malnutrition available for any locality in North Kordofan.

38 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

39 <https://fscluster.org/sudan>

40 UNICEF Immunization Programme Data 2023

41 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

42 <https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156730/?iso3=SDN>

## West Kordofan

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
West Kordofan	Insufficient information	Insufficient information	Insufficient information	Insufficient information

In West Kordofan, security-related access challenges have grown over the past few months due to sporadic clashes between the conflict parties, which has increased security-related access challenges. As of 18 April, 2024, West Kordofan hosts almost 150,000 internally displaced people, with the majority originating from other locations in West Kordofan (46 per cent), followed by Khartoum (41 per cent), North Kordofan (7 per cent), and South Kordofan (5 per cent). According to IOM, the majority of internally displaced people are concentrated in Babanusa and Al Idia. IOM field teams noted<sup>43</sup> *“increased tensions, and raised concerns about renewed clashes between Rapid Support Forces, Sudanese Armed Forces, and local armed groups, which may pose additional protection risks for internally displaced people and could hinder humanitarian efforts in the upcoming weeks.”*

### Underlying determinants of acute malnutrition

#### Food pathway

There was no CFSVA conducted in West Kordofan State, and therefore little information is available regarding changes in the diets of children under 5 and pregnant and breastfeeding women. However, severe reductions in planted and harvested areas have been reported in 2023 and 2024, including a 46 per cent decrease in cultivated millet and sorghum compared to the five-year average during 2017–2021. This situation is likely to increase household food insecurity, given that the economy of West Kordofan State is predominantly dependent on rain-fed agricultural production and traditional livestock. Food prices have dramatically increased, with an increase of 157.1 per cent in sorghum prices in January 2024 compared to January 2023, according to WFP food prices monitoring (January 2024).

As in the other parts of Kordofan, the presence of humanitarian actors is limited. However, according to the Food Security Cluster dashboard, as of 6 May, 2024, almost 645,000 beneficiaries have been reached with emergency agricultural inputs or emergency livestock, making this state the most well served regarding food security assistance, despite no general food distribution

having been undertaken.<sup>44</sup> In addition, as reported in the 2023 FAO CFSAM,<sup>45</sup> a total of 345 tonnes of sorghum seed were distributed in the traditional rain-fed sector of West Kordofan to alleviate the absence of distribution from the Federal Ministry of Agriculture and Food in 2023. but no information was available on the number of small-scale farmers affected, nor was any data available to compare the estimated “plantable” area with previous years in the state.<sup>46</sup> The UNDP and IFPRI 2023 livelihood in Sudan Amid Armed Conflict report<sup>47</sup> shows that 70 per cent (N=270) households have seen their income decline, 19 per cent have lost their income entirely, and more than 60 per cent reported that their farming work had been disrupted.

Increases in the cost of accommodation were also reported by the IOM field team,<sup>48</sup> putting more pressure on families hosting internally displaced people. According to qualitative information, the food situation among these families is critical, with internally displaced people facing a lack of cash, poor access to markets, and huge shortages of food in gathering points. This information was reinforced by IOM, highlighting in late April 2024 that 84 per cent of the 29,340 internally displaced households responded that food is their priority need, while 95 per cent of the 472 key informants who were internally displaced mentioned that food was available in the market but not affordable.

The situation seems to indicate that the food situation of host households is deteriorating because of several factors: insecurity, rising prices for basic foods, poor harvest results and pressure from the massive influx of internally displaced people. Therefore, it is likely that food security has already deteriorated in internally displaced people and will deteriorate further among host populations, which will have an impact on the dietary diversity of both children under 5 and pregnant and breastfeeding women.

#### Services pathway

The health system in West Kordofan is struggling with shortages of medicines and supplies, as well as with a lack of health staff. In the state, the 99 health facilities are all reported to be functional; however, of the pre-existing 12 SCs dedicated to treatment of children under 5 with SAM and medical complications, only eight remain functional, and only 21 OTPs out of 108 pre-conflict are providing nutrition services for the management of SAM. The presence of health and nutrition partners is limited, with only two partners supporting nutrition activities (one INGO and one NGO) and one INGO supporting health interventions. During NVA working sessions, partners also noted they had observed supply stock-outs over the past

43 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

44 <https://fscluster.org/sudan>

45 <https://openknowledge.fao.org/server/api/core/bitstreams/015d7cac-efbc-4b49-88a6-c1c74cd3cb3e/content>

46 <https://openknowledge.fao.org/server/api/core/bitstreams/015d7cac-efbc-4b49-88a6-c1c74cd3cb3e/content>

47 <https://www.undp.org/sudan/publications/livelihoods-sudan-amid-armed-conflict>

48 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

few months. Qualitative information reports looting of health and nutrition supplies, and partners continue to struggle to deliver materials into the state. With the main roads blocked and high levels of insecurity, the movement of supplies from one area to another is challenging.

As an indication of the level of access to health services, measles immunization coverage recorded in 2023<sup>49</sup> was at 33 per cent for the entire State, but with large disparities from one area to another (18 per cent in Abu Zabad to 65 per cent in Aldebab). According to some operational partners, the security situation has been improving in the last month, with an increase in the number of outreach services, especially around big cities such as Fullah, which hosts a high number of internally displaced people. However, access to health services remains challenging, especially for those who are displaced and those who are living in hard-to-reach areas. Transportation is also an issue, with rising prices and insecurity. According to IOM,<sup>50</sup> 60 per cent of the 472 internally displaced key informants have mentioned that health care is available but not affordable, while 21 per cent highlighted the poor quality of health care.

This situation could easily give way to an increase in the number of cases of common diseases and a deterioration in the general health conditions, particularly among children under 5 and pregnant and breastfeeding women.

### Practices pathway

Very little information was available on any changes in child feeding practices that could impact acute malnutrition. However, some information has been gathered through IOM, indicating that in internally displaced households (N=29,340), 24 per cent mentioned water as their priority need.

### Outcomes of acute malnutrition

At this time, there are no recent outcome data on acute malnutrition available for any locality in West Kordofan.

## Al Jazirah

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
Al Jazirah	Likely "Severe"	Likely "Critical"	Insufficient information	Insufficient information

The conflict expanded to Al Jazirah State at the beginning of December 2023, and as of 25 April 2024, an estimated 371,177 internally displaced people were recorded. Internally displaced people were observed across 1,523 locations, with the highest numbers in Al-Qurashi (22 per cent), Al Kamlin (18 per cent), and Al Hasahisa (15 per cent) localities. Approximately 53 per cent originate from Khartoum, while an estimated 46 per cent have been displaced from other areas within Al Jazirah State. According to IOM, 84 per cent of internally displaced people are currently sheltered in host communities, while 14 per cent have sought shelter in schools or other public buildings. Ongoing clashes and frequent internet outages hinder humanitarian efforts and prevent internally displaced people from accessing critical information, banking services, or coordinating transportation to move to relatively safer areas.

### Underlying determinants of acute malnutrition

#### Food pathway

In Al Jazirah, no CFSVA was conducted, and therefore very little quantitative information is available regarding any changes in the dietary diversity of young children and pregnant and breastfeeding women. According to different sources, food prices remain extremely high and purchasing power continues to diminish. Reports<sup>51</sup> from Al Jazirah say that food in the markets has expired because no one can afford to buy it. Food security remains a major challenge throughout the state, despite reports of some functioning markets and food distribution programmes in Al-Qurashi and Al-Manaqil localities. The Rapid Support Forces' takeover of large parts of Al Jazirah State, the country's breadbasket, has affected the winter cultivation of wheat. From the UNDP and IFRPI Livelihood in Sudan Amid Armed Conflict report (November 2023 to January 2024),<sup>52</sup> 57.4 per cent of households in Al Jazirah State (N=702) have seen their income decline, and 24.9 per cent seen their income eliminated since the start of the conflict.

49 UNICEF Immunization Program Data

50 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

51 <https://reliefweb.int/report/sudan/sudan-khartoum-al-gezira-east-darfur-south-darfur-rapid-gender-analysis-october-2023>

52 <https://reliefweb.int/report/sudan/livelihoods-sudan-amid-armed-conflict-evidence-national-rural-household-survey>



Out of the 177 key informants interviewed among internally displaced people,<sup>53</sup> 95 per cent reported food as their priority need, and the same proportion mentioned that food is available but not affordable. Ongoing clashes and frequent internet blackouts have prevented displaced people from accessing banking services, hindering their access to cash to meet their food requirements.

According to the Food Security Cluster dashboard<sup>54</sup>, there is no partner currently providing humanitarian assistance in the state.

### Services pathway

The vast closures of health facilities in Khartoum have increased the burden on Al Jazirah's facilities. From qualitative information gathered, the health care facilities that remain open are overcrowded and severely lacking supplies, equipment, and medicine, as most of these supplies were previously sourced through markets in Khartoum, which have since been destroyed. The situation negatively impacts quality health care and increases the risk of infectious disease spreading among communities. Access restrictions make it difficult to move supplies within the state, especially to the areas close to Khartoum. As per the Health<sup>55</sup> and Nutrition<sup>56</sup> Cluster, there are currently four INGOs operational in the state, while three partners are providing support to nutrition interventions. Partners noted medical supply shortages and challenges in access to health care.

In Al Jazirah State, between 11 October, 2023 and 30 January, 2024, a total of 1,863 cases of acute watery diarrhoea and 26 associated deaths were reported to the Federal Ministry of Health,<sup>57</sup> with 55 per cent of the reported cases recorded in Al-Manaqil locality. With the onset of the rainy seasons, the risk of acute watery diarrhoea will be even higher, while incidence of malaria is likely to rise. Preventive and curative measures are lacking, with operational partners noting that *"mosquito nets are not available nor is malaria medication."* All these factors represent major risks for the nutrition situation of children under 5 and pregnant and breastfeeding women, especially in a context where their immune system is already weakened by food scarcity.

### Practices pathway

The CARE Gender Rapid Assessment released in October 2023<sup>58</sup> highlighted challenges in accessing WASH services. In Al Jazirah, residents experienced frequent electricity cuts, rendering pumps non-operational and reducing access to water. High rates of displacement have resulted in overcrowding and have increased the number of persons per latrine. An observational assessment in Al Jazeera found that 80 per cent of latrines were not functioning due to water scarcity. Moreover, Al Jazeera residents shared that they struggle to fill adequate numbers of containers to store water for the dry season. Those living in schools must fill buckets, pots, or any other containers from the communal school tap; a separate assessment found that 62 per cent of people lack sufficient water storage containers.

Additional information on access to WASH from IOM (April 2024) highlighted that 69 per cent of the 177 internally displaced key informants mentioned that water was available but not affordable, 77 per cent considered water to be their priority need, and 33 per cent mentioned sanitation as a priority need.

### Outcomes of acute malnutrition

At this time, there is no recent outcome data on acute malnutrition available for any locality in Al Jazirah.

53 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

54 <https://fscluster.org/sudan>

55 <https://app.powerbi.com/view?r=eyJrIjoiYjA3OGQ5YjQ0OTI5ZS00NGU1LTgxZTctOTU4OTJmZDFhZWMyliwidCI6ImY2MTBjMG13LWJkMjQ0tNGIzOS-04MTBiLTNkYzI4MGFmYjU5MCIslmMiOjhh9>

56 <https://app.powerbi.com/view?r=eyJrIjoiM2FiZjZiNjItNzYzMi00NDQxLWl5ZWw0YjQ0NmJlNjUwM2JhliwidCI6Ijc4ZWFiNGZlLTg0YTUtNDcxMC1hOT-MzLTM5NDUwZGI5NmE5NyJ9>

57 <https://worldhealthorg.shinyapps.io/OutbreaksDashboard/>

58 <https://reliefweb.int/report/sudan/sudan-khartoum-al-gezira-east-darfur-south-darfur-rapid-gender-analysis-october-2023>



### The Greater Darfur

The impact of the conflict in the Greater Darfur has been significant. Nearly 68 per cent of health facilities have been damaged, and service delivery is further compromised by health workers fleeing the conflict and health worker salaries being interrupted. Access to this area is mainly through the Chad corridor, established in 2023, whereby the humanitarian supplies are kept in Farchana, in Chad, and transported to the Sudan through Adré or Al Tina crossings to West and North Darfur, respectively. An alternative corridor was recently tested, bringing commodities from Port Sudan to North Darfur through the Northern state, via Dabbah crossing. The fluidity of the conflict in the Sudan, and in the Greater Darfur, lead to renegotiations in access, constant changes in routes and corridors and additional checks, which hamper the timeliness of deliveries and increase the final cost of goods. Conflict is continuing in some areas of the Greater Darfur, with the intensity scaling up in North Darfur in April 2024.

### North Darfur

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
North Darfur	Insufficient information	Insufficient information	Insufficient information	Insufficient information
		Likely "Critical" in IDPs (Al Fasher)		Likely "Extremely Critical" for IDPs

As of 2023, the estimated population of North Darfur was 2,403,783, of which nearly 430,000 were children under 5. Pre-conflict, half of the population in North Darfur already lived in severe poverty. Due to conflict, it is estimated that 16 per cent of population are internally displaced people. According to IOM, as of April 2024, North Darfur has experienced an influx of about 570,183 internally displaced people. It is also estimated that about 110,931 people have fled to other states.

Humanitarian access into Al Fasher, as well as access for supplies, has been severely constrained following the disruption of the Kosti supply route in mid-December 2023. In April 2024, new humanitarian routes were tested, one from Porto Sudan via the Northern state (Dabbah crossing), and one cross-border from Chad, through At Tina crossing.

## Underlying determinants of acute malnutrition

### Food pathways

As with other states, access to North Darfur has been very much restricted. The CFSVA did not cover the state, thus little information is available on any changes in the food pathway. IOM's displacement report (April 2024),<sup>59</sup> through 215 Key informants in North Darfur, indicates that 90 per cent of internally displaced households have food as a priority need. Furthermore, 91 per cent of these households report that markets have food available, but it is not affordable. The recent UNDP/IFPRI Livelihoods in Sudan Amid Armed Conflict report (April 2024)<sup>60</sup> presents additional information on income: 12.8 per cent of the sampled households (N=333) in North Darfur have lost their source of income since the start of the conflict, while 69.5 per cent have had their income reduced. Additionally, 18.9 per cent of the sampled households have employed three or more livelihood coping strategies since the start of the conflict, and 53.2 per cent employed one or two strategies.

Qualitative data confirm the availability of food in the markets and the challenges with access to money and the affordability of these products. The quality and quantity of food in the markets does not meet the level of need. Even without quantitative data, it is expected that the limited quantity and quality of food and low affordability will negatively affect the quality of diets, especially for young children and women.

### Services (health pathways)

The CFSVA was not conducted in North Darfur, and accessibility to and within the state remains a challenge; therefore, limited quantitative information was received regarding health and nutrition services.

According to qualitative interviews, the primary health care system has been strongly disrupted in North Darfur, and there have been considerable reports of unavailability of staff, medicines, equipment, and power/fuel. In Al Fasher, key informants within the health sector reported that it was impossible to know whether patients were recovering, worsening or even dying because many were leaving treatment early, or not returning for follow-up visits due to costs. Even where health services are free, additional costs such as transportation, food (as health services are not able to provide meals), childcare, and time out from paid work prohibit access to health centres and hospitals. As a result, it is difficult to have a clear picture of morbidity and mortality rates.

Additionally, IOM reports that health care services for internally displaced people are either not available (29

per cent) or available but not affordable (66 per cent). Only five INGOs seem to be actively providing essential health and nutrition services in the state as a whole (Sudan Health Cluster, March 2024), with some mobile clinics also operating to improve access to health care for the most vulnerable populations. The absence of information from localities other than Al Fasher remains of concern. According to IOM's field teams, only two hospitals remained partially operational in Al Fasher, as of 25 April 2024. The recent intensification of hostilities could lead to a very rapid deterioration of the situation in hotspots areas, leaving everyone at even higher risk of morbidities, malnutrition and death.

As a proxy indicator for health care functionality, measles immunization coverage in 2023 in North Darfur was only 30 per cent<sup>61</sup> (well below the recommended minimum of 80 per cent). Nutrition services also seem to be scarce and experiencing the same challenges as health sector services. Five out of seven OTP services are reportedly active (Nutrition Cluster, Feb 2024), and at least 19 targeted supplementary feeding programmes are operational, seven of which are in the ZamZam camp, outside Al Fasher town. At least one SC is operational, in Al Fasher, and one interviewed staff from the partner managing it stated: "Another component that we have started is mobile clinics (4) in Al Fasher focusing on the newly displaced population, which moved from Abdoul Super and Arsalan camps - Nutrition is to be integrated in the mobile clinics (but need to recruit staff [...] and to get supplies [...]). When you look at the stabilization centre where we are providing services, we are getting a lot of our admissions of children with SAM coming from IDP-related kind of communities - 40 per cent of those who are coming are not from the host community, but they are from the surrounding IDP camps."

A Joint Rapid Need Assessment in El Fasher rural, whose report was released by GOAL in April 2024, investigated the needs of recently displaced persons from the rural areas of Al Fasher, in North Darfur. Through field observations, interviews, and focus group discussion, the team found that the most common illnesses among internally displaced people were diarrhoea, eye infections, [unknown] fever, and skin diseases. Furthermore, access to health care services for this population was limited by the cost of the services and vaccination services were not available for lack of a cold chain. Nutrition services were available but supplies were reportedly not consistent.

The limited information available indicates the urgent need for the scale-up of nutrition and health interventions, including promotion and support of positive practices in maternal, infant, and young child nutrition.

59 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08)); <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

60 UNDP, IFPRI. Livelihoods in Sudan Amid Armed Conflict. April, 2024; <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

61 UNICEF Immunization Program Data 2023



### Practices (care pathways)

IOM indicates that water is a priority need for 83 per cent of internally displaced households; in 94 per cent of these households, water is available but not affordable.

In a report from GOAL, related to a joint rapid needs assessment<sup>62</sup> conducted on 23 April, 2024, using field observations, interviews and focus group discussions with affected people who were recently displaced from rural areas of Al Fasher, there is reference to needs for chlorination inputs, as well as the need for spare parts, maintenance, and fuel to keep the bore holes running for the newly displaced population. Furthermore, 70 per cent of the new internally displaced people did not have jerry cans to transport water from the source and preserve it. In Golo gathering site, GOAL reported an average of 2.3 litres of water/person/day and 1.8 litres in Shagra gathering site, both well below the minimum requirements of 15 litres/person/day.<sup>63</sup> There was also a clear indication that the number of latrines per person was much below the minimum standard of one shared toilet/latrine for 20 persons.<sup>64</sup>

### Outcomes of acute malnutrition

There are scarce data on acute malnutrition. From the few screenings conducted (facility-based), the rates of acute malnutrition appear to be high. The situation is expected to worsen due to intensification of conflict, as reported in Al Fasher and Um Kadadah localities, which will hamper the provision of both life-saving and preventive measures. The rapid nutrition and mortality assessment in ZamZam camp, Al Fasher locality, conducted by MSF in January 2024, reached 400 households in 20 random points of the camp. Its results indicated a GAM-MUAC prevalence in children under 5 of 23.1 per cent [18.4-28.5 per cent, 95 per cent CI] and SAM-MUAC prevalence of 7.1 per cent (4.7-10.6 per cent, 95 per cent CI) (N=659). The same screening results indicate that 40.8 per cent [32.5-49.5 per cent, 95 per cent CI] of pregnant and breastfeeding women had a MUAC <230 mm (N=314). Between 24 March and 7 April 2024, MSF conducted a new mass MUAC screening<sup>65</sup> in ZamZam camp, measuring 46,790 children under 5 and 16,469 pregnant and breastfeeding women. The results showed a proxy-GAM among children of 29.4 per cent (MUAC), with a proxy-SAM of 8.2 per cent. Moreover, 33.3 per cent of the women were found to be acutely malnourished. Both these results reflect an extremely critical nutrition situation in the camp.

### West Darfur

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
West Darfur	Likely "Extremely Critical"	Likely "Critical"	Likely "Critical"	Insufficient information

Sharing a border and crossing with the Republic of Chad, West Darfur has been a state through which many internally displaced people have passed while seeking refuge in the neighbouring country. Displaced people from Khartoum and from the other Darfur states, including those from West Darfur, make up to 9 per cent of the state's population. According to IOM, as of April 2024, 173,685 displaced people were sheltering in West Darfur, while 235,266 people from West Darfur had become displaced in other localities of the state, or had fled mainly to South, Central, or North Darfur, or to the Red Sea states (IOM, April 2024).<sup>66</sup> The IOM Monthly Displacement Overview 08 (from 30 April)<sup>67</sup> indicates that most of the internally displaced people are originally from Ag Geneina and Kereneik, followed by Sirba and Habila – wd. Furthermore, some 67 per cent of the displaced people are primarily hosted in Jebel Moon, Kulbus, and Ag Geneina, most sheltered with host communities (61 per cent) or in schools or other public buildings (34 per cent).

Since 2020, more than half of all new internally displaced people in Darfur have come from West Darfur, and between January and August 2022, 50 per cent of new displaced people throughout the whole of the Sudan came from West Darfur. In 2022, 72 per cent of communal conflict incidents in the larger Darfur region occurred in West Darfur. This situation of intensified conflict and displacement has coincided with delays and gaps, especially in funding, in implementing key provisions of the Juba Peace Agreement on the protection of civilians and security.<sup>68</sup> The current conflict between Sudanese Armed Forces and the Rapid Support Forces has now taken an ethnic and tribal dimension to it, in West Darfur. In November 2023, ethnically-based conflict culminated in intense attacks in Ardamata<sup>69</sup> (in Ag Geneina locality) where hundreds of civilians were killed, predominantly from the Masalit community, and some 8,000 people fleeing to Chad. According to IOM, in tribal tensions in Kulbus locality are increasing, and there are growing protection concerns in Sirba locality due to ethnic and tribal tensions.

62 Joint Rapid Need Assessment in Elfasher rural (Final Report). GOAL. April 2024

63 Sphere Handbook 2018

64 Sphere Handbook 2018

65 Mass MUAC Screening (MMS) and Distribution of RUTF (PPN)/RUSF (PPD) conducted in ZAMZAM camp, North Darfur, the Sudan. MSF, April 2024

66 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08); <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>)

67 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

68 HNO 2023

69 <https://www.hrw.org/news/2023/11/26/sudan-new-mass-ethnic-killings-pillage-darfur>



**Humanitarian corridors and access:** In August 2023, a cross-border humanitarian corridor<sup>70</sup> was established between Chad and the Darfur states, entering West Darfur directly, and linking to Central, South, North, and East Darfur. This corridor, with crossing in Adré, was closed to the United Nations in February 2024, reopening in late-March, when 37 trucks with 1,300 MT of food crossed.<sup>71</sup> Adré is also the crossing through which medical organizations import medical supplies to Darfur.

It is also through West Darfur that many Sudanese have been fleeing to Chad looking for asylum and protection. According to United Nations High Commissioner for Refugees (UNHCR)<sup>72</sup>, between 15 April 2023 and 20 April 2024, some 579,222 Sudanese (88 per cent women and children) had crossed to Chad, most of whom came through West Darfur. Given the different fronts and dynamics of the conflict in Sudan, humanitarian access to West Darfur relies on crossings from Chad. However, access is hampered by the lengthy clearance processes for humanitarian cargo, bureaucratic impediments, and security threats.<sup>73</sup>

For the analysis of the three pathways, the localities of West Darfur were grouped into three clusters that represent similar livelihood contexts as per Food Security Cluster guidance, as follows:

- **Cluster 1:** Ag Geneina and Kereneik
- **Cluster 2:** Beida, Fofa Baranga, and Habila – wd
- **Cluster 3:** Jebel Moon, Kulbus, and Sirba

### Underlying determinants of acute malnutrition

#### Food pathways

While there are no recent data available for infant and maternal feeding practices, the data collected through the CFSVA (2024) indicate a severe situation in the three clusters of West Darfur in terms of food consumption score, with an average poor consumption of 55 per cent (309/565). In addition, data show a household dietary diversity score of 61 per cent (342 out of 565 households), which refers to the average consumption of four or fewer food groups, and FCS-Nutrition (FCS-N).

The results show a worse situation in the localities of cluster 3, where 68 per cent of households reported a poor

food consumption score and 63 per cent reported having consumed four or fewer food groups in the last 24 hours (n= 224). The same is reflected in the estimation of FCS-N, where 35 per cent of the households in cluster 3 had not consumed any source of protein, and 59 per cent had not consumed haem-iron rich foods in the preceding week. The deterioration of the food security situation since the start of the conflict was also noted by NGOs.

To understand these differences, qualitative information speaks to the geographical characteristics of cluster 3, which tend to be drier and more dependent on rain-fed agriculture for grain production and herding, but which are also prone to becoming isolated during the rainy season. In addition, Sirba was under siege in July 2023<sup>74</sup>, leading to thousands of civilians being forced to flee to seek safety, and had their existing food stocks looted. Individuals living in cluster 1 tend to have more pastoralist livelihoods and more agricultural production, which are more directly affected by rains. Conflict and insecurity had a direct impact on production in cluster 1, disrupting planting during peak land preparation and cultivation periods; little to no harvest is expected in the most affected areas.<sup>75</sup>

Throughout West Darfur, the conflict has had a direct impact on the livelihoods and food security of the population. Fighting has led to multiple displacements and restricted movement; farmers have not been able to safely go to their fields to prepare, cultivate or harvest; herder grazing routes have become more restricted (including movement within the Greater Darfur and to South Sudan); farmers have limited access to inputs, and many who had to flee lost their livestock by leaving them behind. As a result, there is a high degree of dependence on markets, which (when they exist) have limited supplies and high prices. As mentioned, IOM estimates that 81 per cent of internally displaced people have access to markets but cannot afford the products, while 11 per cent do not feel safe in reaching the markets. Also, according to IOM, some 82 per cent of internally displaced people in West Darfur report not having electricity available, while 11 per cent report that electricity is available but not affordable, making access to cash through e-banking services challenging.

Informants report that, while food insecurity can be high in February in the state, this year the situation is worse, and

70 WFP (<https://www.wfp.org/news/wfp-delivers-first-food-assistance-west-darfur-sudan-conflict-pushes-record-numbers-people>): 1st Assistance from WFP reached WD in August 2023, coming from Chad through Adre crossing.

71 WFP (<https://www.wfp.org/news/first-food-aid-months-reaches-darfur-yet-limited-humanitarian-access-worsening-sudans-hunger>):

- Authorities in Port Sudan have revoked permissions for humanitarian corridors from Chad in February.

- In the end of March, Adre crossing (from Chad) reopened and 37 trucks with 1,300 mt of food entered West Darfur.

72 <https://data.unhcr.org/en/situations/sudansituation>

73 WFP (<https://www.wfp.org/news/first-food-aid-months-reaches-darfur-yet-limited-humanitarian-access-worsening-sudans-hunger>): Humanitarian assistance in Darfur is also hampered by the lengthy clearance processes for humanitarian cargo, bureaucratic impediments, and security threats.

74 <https://hub.conflictobservatory.org/portal/apps/sites/#/sudan>; Conflict Observatory. "Spot Report: Sirba, West Darfur 24 July - 30 July, 2023". August 2023

75 <https://fews.net/east-africa/sudan/food-security-outlook/october-2023>

Sudanese from West Darfur are crossing to Chad looking for food. With the start of the rainy season, it is expected that access will be reduced as some areas have a degree of risk of floods (cluster 1) or to become isolated between wadis (cluster 3), cutting them access to much needed supplies.

Humanitarian agencies also face challenges in providing assistance. In addition to funding constraints, the only accessible corridor to reach West Darfur has been through Chad, mostly through Adré. Transport between east Chad and West Darfur, as well as within West Darfur itself, can be difficult, particularly during the rainy season.

Traditionally, communities relied on “wild foods” to get through the lean season, but these are only available during the rainy season (starting around July), and only in those parts of Darfur that have not been transformed into agricultural land. Communities living in more urban areas and internally displaced people do not have access to such foods.

### Services (health pathways)

There are several barriers to providing nutrition services in West Darfur, including a lack of funding, access and supplies (with regular pipeline breaks), as well as poor functionality of health services. Only 77 health facilities are functional compared with 155 pre-conflict. According to the IOM monthly report on displacement (IOM, April 2024) health services are a main need among displaced people in West Darfur (100 per cent, according to 40 key informants); 58 per cent of informants indicate that services exist but not affordable; 11 per cent report services are not of good quality; and 11 per cent indicate that it is not safe to access health services. People have reportedly been prevented from seeking treatment in more specialized centres due to insecurity in Ag Geneina. In the peak of the conflict in the capital of the state, only Sudanese Red Crescent Society remain operating in the locality.

According to qualitative information, there were no targeted supplementary feeding programme services in West Darfur for almost two years, until they recently resumed in more than 40 centres. This is still reportedly insufficient to meet needs, which are reflected by increased demand for OTP services, but there are plans to scale up. Currently, 62 OTPs are functioning out of 145. OTP admissions decreased in the beginning of 2024 (compared to the same period in 2023) likely due to the closure of many OTP centres during the conflict. Running SCs has been extremely challenging, with only two fully operational SCs in the state (supported by INGOs), and the remaining only partially operational due to lack of funding and supplies. In Sirba and Jebel Moon, SCs have closed because they lack the capacity to run 24-hour services. Informants highlighted the dependence on humanitarian support to provide health services to women and children.

Insufficient information on diseases was collected in the 2024 CFSVA; however, qualitative information indicates a rising trend in diseases among children during the months of February and March 2024. There are increases in fever and malaria in children under 5, and also a slight increase in acute respiratory infections. This may reflect an actual increase in incidence, but it could also be the result of the resumption of health activities after a months-long pause. More time is needed to understand this trend.

What is clear is that vaccination rates are low: measles vaccination in 2023 was only at 29 per cent (ranging from 17 per cent in Habila to 43 per cent in Kulbus),<sup>76</sup> which is very low (below the minimum 80 per cent) and indicative of the difficulties facing the health care system. Access, as indicated in the food pathway, is not only about children and families receiving services but also about supplies and humanitarian workers reaching health facilities. The latter remains a challenge since security and border restrictions affect entry to the state (through Adré, Chad) as well as access to the localities and communities.

The rainy season, combined with suboptimal water and sanitation conditions, is expected to have a negative impact on health and nutrition, especially among young children and pregnant and breastfeeding women, through increased cases of malaria, diarrhoea and respiratory infections, all of which require health services to be available and well-supplied. The rainy season also poses the risk of cutting off Jebel Moon and Kulbus localities. This is of concern given that these localities already face a very poor food security situation, and (together with Ag Geneina) host the majority of the internally displaced people in West Darfur.

### Practices (care pathways)

Some data on feeding practices for children and women were collected, but were insufficient to extrapolate. However, qualitative data show that most of the admissions to SCs are children under 18 months of age, highlighting the need to improve breastfeeding and complementary feeding practices.

Sanitary conditions in West Darfur seem to be critical. Use of unprotected water sources in West Darfur, is of 58 per cent (CFSVA, 2024), indicating a deterioration of the situation compared to 2018 when 69 per cent used improved drinking water (S3M II 2018). The CFSVA indicates that the situation is even more concerning in Habila locality (83 per cent) and in cluster 3 (71 per cent).

Only 11 per cent of households across the state reported using improved latrines, Habila has the worst sanitary conditions, with no use of improved latrines, while 19 per cent in cluster 1 reported using this type of latrine. Furthermore, across several localities, key water infrastructure remains non-operational due to lack of

76 UNICEF Immunization Program Data 2023

funding, making water one of the major needs for the displaced population, along with health, non-food-items, and food (IOM, April 2024). The risk of diseases arising from these conditions, combined with the additional stress on resources posed by the arrival of internally displaced people, can lead to the fast spread of diarrhoeal diseases, and contribute to further deteriorations in nutrition status. Qualitative information indicates that 64 per cent of people, especially in settlements for displaced people, practice open defecation. This is reportedly due to a lack of latrines nearby; those that do exist are either unsafe, unclean, or have full septic tanks. The upcoming rainy season will only worsen these critical conditions.

### Outcomes of acute malnutrition

There is no recent outcome data on acute malnutrition available for any locality in West Darfur, at the moment.

### Central Darfur

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
Central Darfur	Likely "Critical"	Likely "Critical"	Likely "Critical"	Likely "Critical"*

There has been limited humanitarian access to Central Darfur due to conflict, and the state has been mostly reliant on the Adré crossing in Chad for humanitarian supplies, which does not assure a reliable and sustained supply.<sup>77</sup> The state has recorded an influx of about 429,525 internally displaced people coming from West, South, North Darfur and Khartoum states, and an outflux of about 292,864 to North, South, West Darfur and Red Sea States. The overall estimate of displaced people in Central Darfur is 20 per cent of 2,080,395 people. Of the population of Central Darfur, 63 per cent live in severe poverty, and 156,000 are children under 5.

### Underlying determinants of acute malnutrition

#### Food pathways

Localized quantitative evidence (in Azum, Wadi Salih and Zalingie), and qualitative information from partners operating in these areas, show a poor quantity and quality of nutritious diets. Data from the CFSVA (2024) indicate that 29 per cent have a poor food consumption score (N=123), with 15 per cent not consuming food sources of protein, and 23 per cent not consuming foods with haem-iron. It is believed that the current pattern is worse than usual at this time of the year. This is mostly due to fact that there has been poor

cultivation, which is expected to have repercussions in the long-term, especially as access to agricultural inputs and to the farmlands are limited. For internally displaced people, IOM displacement report<sup>78</sup> (with 36 key informants) indicates that food is a priority need for 99 per cent of households, together with sanitation and protection.

Key informants report that critical food and cash assistance are hampered by restricted access to the state. Frequent restrictions on movement and continued telecommunications outages, both resulting from the conflict, are directly impacting people's access to cash. Households also suffer looting and loss of their livelihoods. The livelihoods analysis published by UNDP and IFPRI in 2024<sup>79</sup> indicates that 8.6 per cent of households in West Darfur have lost their source of income, and 50.6 per cent have a reduced income since the start of the conflict; despite this, 63 per cent have not employed any livelihood coping strategies.<sup>80</sup> IOM data indicate that 99 per cent of internally displaced households have food available in the markets but cannot afford it.

#### Services (Health)

The health system is struggling to provide health and nutrition services at scale due to a variety of reasons:

1. Health care staff are not available, as many have had to flee the country or to other states.
2. Shortage of supplies at facility level. Some supplies are unable to be dispatched to Central Darfur due to insecurity.
3. Difficulty in securing timely and sustainable funding for health and nutrition programmes.

In IOM's monthly report on displacement (IOM, April 2024),<sup>81</sup> health services feature as a main priority to Central Darfur's displaced population (96 per cent, according to 36 key informants); 56 per cent of indicate that health services are not available at all, while 41 per cent indicate that services exist but are not affordable.

A SMART survey conducted by Action Against Hunger in Zalingie locality in March 2024, with 526 households interviewed, also collected mortality information. The survey results indicate a retrospective crude mortality rate of 0.34/10,000 people/day [0.18-0.63], and an under-five mortality rate of 0.46/10,000 children/day [0.11-1.88], both below the emergency thresholds. Regarding location of deaths, most of the deaths occurred in the current location (70 per cent) followed by in place of last residence (30 per cent). Illness (60 per cent) followed by injury/traumatic (30

77 <https://reports.unocha.org/en/country/sudan/card/3afARJT2v5/>

78 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

79 UNDP, IFPRI. Livelihoods in Sudan Amid Armed Conflict. April, 2024; <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

80 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

81 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

per cent) and unknown (10 per cent) were the main cause of death reported by surveyed households.

Although there is insufficient quantitative evidence available, historically the prevalence of malaria and diarrhoea tends to increase during the rainy season. This is expected to be compounded considerably by the lack of preventive programmes, as well as limited health facility functionality. As a proxy indicator, the coverage of measles vaccination was of only 22 per cent (of a recommended  $\geq 80$  per cent).

According to key informants, while the number of nutrition services available and accessible have decreased, the rainy season is usually accompanied by an increase in malnutrition in Central Darfur. Thus, a further deterioration of the nutrition situation in the state is expected in the coming months.

### Care pathways

According to the last national survey report (S3M 2018), about 86 per cent of the households drank water from an improved source. The current CFSVA assessment estimated that in some areas (Azum, Wadi Salih and Zalingie), only 40 per cent of the households (N=123) could access safe drinking water.

There is also risk of additional diseases due to open defecation and non-use of pit latrines. The risk of disease is expected to increase further during the rainy season.

With regards to child feeding practices, it has been reported that about 50 per cent of women and children do not have access to a minimum adequate diet.

### Outcome of acute malnutrition

Overall, the vulnerability to acute malnutrition in this state was found to be critical, and the outlook seems to point to deterioration, due to seasonality compounded by current aggravating conditions that are expected to worsen further during and after the rainy season. A SMART survey conducted by Action Against Hunger in March 2024 in Zalingie locality reported a GAM-WHZ prevalence in children under 5 of 15.6 per cent (12.6-19.2, 95 per cent CI) (N=454), with a SAM prevalence of 2.6 per cent (1.4-5.0, 95 per cent CI).

### East Darfur

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
East Darfur	Likely "Severe"	Likely "Severe"	Likely "Moderate"	Likely "Extremely Critical"***

Due to the relative safety of the East Darfur state, the state's population increased through a large influx of internally displaced people from the other Darfur states: Khartoum,

North and West Kordofan. This resulted in an increase in population from 794,231 pre-conflict to 1,398,142. The state also hosts a considerable number of refugees from South Sudan in Kerio and El-Nimir camp.

Despite the relative safety of the state, there are fewer facilities available, and the influx places additional pressure on food resources, as well as on limited health and water services. Furthermore, with the cross-border humanitarian access to Chad needing to go through Central and South Darfur, the accessibility of supplies is considerably challenged. However, other goods are available in the market through South Sudan and Libya, as well as northern states.

### Underlying determinants of acute malnutrition

#### Food pathways

The state is comprised of different livelihood zones, with some pastoralist (southern areas of the state mainly) and some agro-pastoralist areas. From plenary discussions, it is understood that while the food security situation will be strained in all areas, the state has experienced lower disruption to the food production. However, as a result of the conflict in other states, the markets for cash products such as groundnut have been affected, resulting in low prices. This has had a repercussion on household income in households depending on cash crops, as well as a repercussion on those who depend on agricultural wage labour. Markets continued functioning, albeit partially, with the movement of products to and from South Sudan till somewhat sustained while movement to and from other areas of Sudan were challenging.

While the food security situation appears stable, there are some differences observed between the different localities. Localities that have high agricultural production, such as Shia'ria and Abu Jabrah, had a lower proportion of households with poor food consumption scores, while localities that are pastoralists (Assalaya), hosting high number of displaced people (Ad Du-ayn) or having experienced a much higher pest infestation in the last year (Al Firdous) have higher proportion of households with poor food consumption scores. However, despite the lower proportion of households with a poor food consumption score in some areas, localities such as Ad Du'ayn and Assalaya had 44 per cent (N=209) and 43 per cent (N=207) of the households with poor consumption scores respectively. Also, the majority of the localities in the state had a high number of households with a poor household dietary diversity score (four food groups or less), except for Al Firdous locality.

While the sample size was not sufficient for a disaggregated analysis, the proportion of women achieving the minimum dietary diversity was very low (only 11.1 per cent). Information on the proportion of child consuming the



minimum acceptable diet was insufficient to draw any conclusions in East Darfur.

Data from the IOM displacement monthly report from April 2024<sup>82</sup> refer to 99 per cent of internally displaced people in East Darfur having food as a priority need (based on 48 key informants), while 99 per cent mentioning that food is available in the market but is not affordable. The UNDP and IFPRI report on Livelihoods in Sudan Amid Armed Conflict (April 2024)<sup>83</sup> provides additional insight into purchasing power in East Darfur. According to this report, 11.2 per cent of the sampled households (N=135) in East Darfur lost their source of income, and 61.9 per cent reduced their income since the start of the conflict, having impacted the *per capita* annual income with a decrease of some 6,000 nominal Sudanese pound. Moreover, 11.1 per cent of sampled households employed at least three livelihood coping strategies, and 43.7 employed one or two strategies, since the start of the conflict.

### Services (health pathways)

The 2024 CFSVA collected data on disease in children aged 6–59 months. Unfortunately, the sample is insufficient to disaggregate in the various areas. However, of the 318 children aged 6–59 months from responding households in East Darfur, 11.6 per cent of them were reported to have been sick with at least one disease in the preceding two weeks. The numbers reporting to have had diarrhoea (21 per cent) and fever (29 per cent) in the preceding two weeks do not differ significantly from the baseline of 17.9 per cent and 32 per cent of diarrhoea and fever respectively in the S3M II conducted in 2018. Key informants reported seeing an increased number of patients in primary and secondary health facilities, but with little quantitative information available on this.

In September 2023, a SMART survey conducted by CARE in Ad Du'ayn locality estimated a retrospective (100 days) crude mortality rate of 0.32/10,000 people/day, and an under-five mortality rate of 0.33/10,000 children/day (N=491 households), both of which were below the WHO emergency levels. The survey also provided insight into measles immunization, with its coverage being only 64.8 per cent (below the recommended  $\geq 80$  per cent).

Although rates of vaccination were better in East Darfur compared to the other states in the Greater Darfur<sup>84</sup> (reported at 50 per cent coverage in 2023, ranging from 32 per cent in Assalaya to 63 per cent in Bahr Al Arab), reports of suspected measles remain worrying. A new batch of vaccines for measles was received in April 2024; however, given the challenges with the cold chain, the

vaccination campaigns had to be accelerated and focus in accessible areas only, leaving the remaining areas without vaccines. Health services, like elsewhere in Greater Darfur, are struggling. Shortages of health supplies are at critical levels, with an impact expected as a result of the upcoming rainy season. For the internally displaced population, IOM reports<sup>85</sup> that health is of high priority for 100 per cent of displaced people (reported by 48 key informants), while 76 per cent mentioned that health services are available but not affordable, and 13 per cent are not available at all.

Furthermore, during active conflict, patients are not able to access OTPs.

### Practices (care pathways)

Use of unprotected water sources was low throughout the state, ranging from 0 per cent in Ad Du'ayn, Adila, Abu Jabrah and Shia'ria, to 10 per cent in Yassin (CFSVA, 2024). A CARE evaluation highlighted that accessing water from a tap is the most common way of obtaining water in East Darfur (27 per cent) followed by water tanks (20 per cent). Although the water sources appear good quality, one-quarter of the residents still have to queue or travel for more than one hour in East Darfur (October, 2023). This remains unchanged since before the conflict, with women highlighting that although they continue to have water available, they are more careful with how much they consume as a precautionary measure (October 2023). It remains a high household expense across the Darfur's and Khartoum.

### Outcomes of acute malnutrition

As a result of the high influx of IDPs, a SMART survey was conducted by CARE in Ad Du'ayn locality in September 2023, five months after the outbreak of the conflict. With a GAM by WHZ of 12.3 per cent [9.6–15.7 per cent, 95 per cent CI] and SAM by WHZ of 1.4 per cent [0.6–3.0 per cent, 95 per cent CI] (N=658), this highlighted a slight increase in the prevalence from 8.8 per cent GAM by MUAC (S3M II, 2018). Furthermore, CARE's survey in Al Du'ayn indicates 6.4 per cent (7/110) of the pregnant and breastfeeding women surveyed had MUAC <230mm.

While a deterioration had been expected due to the lean season and a large influx of internally displaced people, the slow presentation of acute malnutrition and the strong community support given by the host community could have alleviated the situation and protected a deterioration. However, this situation is likely to have changed, with increases in admissions being observed, especially in some localities such as Ad Du'ayn.

82 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

83 UNDP, IFPRI. Livelihoods in Sudan Amid Armed Conflict. April, 2024; <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

84 UNICEF Immunization Program Data 2023

85 <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>

## South Darfur

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
South Darfur	Likely “Critical”	Insufficient information	Insufficient information	Likely “Severe”

With South Darfur hosting 16 per cent of internally displaced people hailing from the other localities of Darfur, as well as Khartoum, the population in this state is projected to have grown, putting considerable pressure on what was already the most densely populated states in the Greater Darfur.<sup>86</sup> As of 18 April, 2024, there were 744,208 people reported to have sought sanctuary in South Darfur, with 280,606 reported to have fled to other states in the Greater Darfur region, West Kordofan and the Red Sea (IOM, April 2024). While displacement at the start of the conflict was to other states, recent displacement has been shifted to within the South Darfur in the short-term. The state is recently accessible through the Chad corridor with supplies arriving from Chad through Central Darfur, mainly to the northern localities of South Darfur. Access from the Eastern corridor from Port Sudan is hampered due to the current front lines.

### Underlying determinants of acute malnutrition

#### Food pathways

Due to the challenging access to South Darfur, little quantitative information was available on changes in the diets of groups vulnerable to acute malnutrition, such as children under 5 and pregnant and breastfeeding women. According to IOM’s displacement report from April 2024,<sup>87</sup> it is estimated that 95 per cent of the displaced households in South Darfur have food as a priority need (reported by 49 key informants). The report also indicated that internally displaced people see food available in the markets but it is not affordable (100 per cent). The livelihoods report from UNDP and IFPRI (April 2024) confirmed this information, indicating that 10.5 per cent of the sampled households in South Darfur lost their source of income since the start of the conflict, while 56.1 per cent reduced their income. Furthermore, a reduction in the per capita annual income of some 4,000-5,000 nominal Sudanese pound was noted.

Qualitative reports highlight that the food security situation is likely to be strained. The reasons provided are the already poor agricultural production in 2023 because the harvest season coincided with an escalation in fighting

(even if cultivation season seemed within the normal trends), the restricted access to farmland for planting, and the extensive damage to Nyala cereal market. This market served not only South Darfur, but also played an important role in providing grain for other markets the Greater Darfur. The looting and burning of buffer cereal stocks in Nyala market,<sup>88</sup> along with the challenging food security conditions observed, has led to concerns about the availability of a diverse diet for nutritionally vulnerable groups. Key informants observed that the market had fewer varieties of food than normal because of constrained access to the state. The impediments to exporting cereals also contributed to the reduction in purchasing power. This has been compounded by poor purchasing power with the loss of household assets, indicating that households will struggle to obtain a sufficient and diverse diet for children aged 6–59 months and for pregnant and breastfeeding women.

Due to the scarcity of information and key informants obtained in this area, little other information was able to be obtained that was disaggregated.

#### Services (health pathways)

Very little information was obtained on the trend of diseases in South Darfur, a reflection of the collapsing health system as a result of damage to infrastructure, the lack of supplies, the non-payment of salaries as well as reduced access to health facilities. As a result of this, for example, only four out of nine SCs, 22 out of 101 OTPs and between 70 and 73 of the 90 health facilities are functioning. According to qualitative reports, tuberculosis has recently been reported by communities in South Darfur, especially in Gereida locality. Furthermore, suspected measles has been reported in the state, which has repercussions in children, and particularly for children with acute malnutrition. The immunization coverage for measles in 2023 was only of 15 per cent<sup>89</sup> (the lowest in the Greater Darfur region), which is very low compared with the recommended minimum 80 per cent, and indicative of the difficulties faced by the health care system in the state. Furthermore, this is worrying in a state that has seen no vaccinations in the last year and with a very low coverage of 15 per cent having been reported in 2023. Vaccinations have recently resumed in a few localities.<sup>90</sup>

A cross-sectional retrospective mortality and nutrition survey<sup>91</sup> conducted by MSF in February-March 2024 in Nyala city (north and south), and in Beliel and Otash displaced

86 [https://pdf.usaid.gov/pdf\\_docs/pnadf078.pdf](https://pdf.usaid.gov/pdf_docs/pnadf078.pdf)

87 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08); link: <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-over-view-08?close=true>)

88 <https://www.dabangasudan.org/en/all-news/article/south-darfur-crop-market-in-ashes-traders-warn-for-food-gap>

89 UNICEF Immunization Program Data 2023

90 <https://reliefweb.int/report/sudan/south-darfur-starts-vaccination-campaign-one-third-state>

91 Cross-sectional retrospective mortality and nutrition survey in Nyala city and Beliel and Otash internally displaced person camps, South Darfur State, Sudan. February-March 2024. MSF-OCA, April 2024.

persons' camps, indicate an unweighted crude mortality rate of 0.24 deaths per 10,000 persons/day (n=47; 0.17-0.31, 95 per cent CI), with a slightly higher value in North Nyala, although still below the emergency thresholds. Furthermore, the under-five mortality rate in Nyala city and camps was estimated at 0.5 deaths per 10,000 persons/day (n=12; 0.22-0.78, 95 per cent CI), with a slightly higher rate in Otash camp (n=5; 0.77 deaths per 10,000 persons/day) and South Nyala (n= 4; 0.67 deaths per 10,000 persons/day). Overall, the survey found that 33.3 per cent (n=4) of the children's reported deaths were due to respiratory infections, followed by diarrhoea (n=3; 16.7 per cent), malnutrition (n=3; 16.7 per cent), and violence (n=3; 16.7 per cent).

Due to the scarcity of information and key informants obtained in this area, little other information was able to be obtained that was disaggregated.

### Practices (care pathways)

Very little information was available on any changes in practices and any change in child feeding practices that could impact on acute malnutrition.

### Outcomes of acute malnutrition

The cross-sectional retrospective mortality and nutrition survey conducted by MSF in February-March 2024 in Nyala,<sup>92</sup> reported an unweighted proxy-GAM rate of 5.6 per cent (4.0–7.8, 95 per cent CI) among children aged 6 to 59 months (N=679) in the four sites included in the survey, based on MUAC measurements. The unweighted estimate for the prevalence of SAM was 1.4 per cent (0.7-2.7, 95 per cent CI).

As expected, across all surveyed areas, children aged 6 to 23 months were particularly affected by acute malnutrition, with the unweighted proxy-GAM of 15.3 per cent (10.2–22.4, 95 per cent CI), showing an extremely critical situation among this age group. Per survey strata, the GAM prevalence among children 6 to 23 months was higher in internally displaced persons camps: 20.9 per cent (95 per cent CI: 11.0 – 36.1) in Otash camp and 20.0 per cent (9.6–37.1, 95 per cent CI) in Beliel camp.

Among pregnant and breastfeeding women, the overall unweighted prevalence of acute malnutrition was 12.5 per cent (7.8–19.5, 95 per cent CI). The acute malnutrition prevalence was higher in Beliel camp, with 17.0 per cent (8.6–31.0, 95 per cent CI), and in south Nyala, with 16.7 per cent, (6.0–38.6, 95 per cent CI).

While the data are not representative of the entire state, they show a likely “severe” to critical situation, as the prevalence among children under 5 and in younger children (aged 6–23 months) is already at critical levels (>15 per cent), revealing a deterioration in nutritional status.

## Khartoum

State / Acute malnutrition pathways	Food	Services	Practices	Nutrition outcome data
Khartoum	Likely “Critical”	Likely “Critical”	Likely “Severe”	Insufficient information

Khartoum has been one of the hotspots of the recent conflict, with a dynamic conflict environment that makes humanitarian operations complex and difficult. As a result, the state remains the top state of origin in the Sudan, already with 3.5 million people displaced, representing about half of its original population. The majority of displaced people from Khartoum have been hosted in River Nile (19 per cent), White Nile (13 per cent), and Northern (11 per cent) states. Households initially displaced from Khartoum to Al Jazirah State were once again facing displacement to more eastern states such as Sennar, Gedaref, Kassala, and Red Sea states. Some 65,141 displaced people are hosted in Khartoum, most of whom are from other parts of Khartoum and staying in more urban areas, with higher concentration in Karrari, Bahri, and Sharg An Neel. Internally displaced people are hosted either by communities (85 per cent) or in rented accommodations (14 per cent), according to the information provided by 308 key informants contributing to the IOM DTM (April 2024).<sup>93</sup>

During April 2024,<sup>94</sup> IOM field teams observed increased hostilities across Khartoum, particularly in Karrari, Um Bada, and Um Durman localities. There are descriptions of looting, and the shelling damaging hospitals, schools, bridges, along with other governmental buildings and residential houses.

### Underlying determinants of acute malnutrition

#### Food pathways

Given the challenges in reaching and providing sustained assistance in Khartoum, no CFSVA data were collected in the state. The main quantitative indication for the food security is the result of the October 2023 IPC-Acute Food Insecurity analysis, which indicates that 55 per cent of the population are in IPC Phase 3 and above, and that Jebel Awlia as a locality has areas that are mostly in IPC Phase 3.

92 Cross-sectional retrospective mortality and nutrition survey in Nyala city and Beliel and Otash internally displaced person camps, South Darfur State, Sudan. February-March 2024. MSF-OCA, April 2024.

93 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08); link: <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>)

94 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08); link: <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>)

On the other hand, the IOM report<sup>95</sup> indicates that 89 per cent of the displaced households have food as a priority need, and 77 per cent report having access to the food markets but not being able to afford the food, while 23 per cent consider it unsafe to reach markets. The reduction of purchasing power not only affects food, but also electricity, education, water, health, non-food items, etc. It is estimated that inflation for basic goods exceeds 160 per cent, and that reduction of supplies is also a contributing factor for this.<sup>96</sup> Furthermore, the April 2024 report from UNDP and IFPRI on Livelihoods in Sudan Amid the Conflict reveals that 39 per cent of the sampled houses in Khartoum lost their source income and 48 per cent had a decline on their income.<sup>97</sup> The report indicates the 59.8 per cent of the sampled households had employed at least one livelihood coping strategy, with 7.6 per cent of these having used three or more strategies.

Qualitative data from a key informant NGO reflected on the use of coping strategies by households that were receiving assistance: *“the first thing that the money was spent on is food, and the second is health, and I’m guessing that health also contains nutrition, with lots of the mothers telling they have bought milk or food for their babies... when they started their displacement or the conflict started, they would sell their assets, some women would sell their gold so that they can have like at least two meals per day, at least they can eat some of the basic food items.... as the conflict extended, the food consumption score started to go to “poor”, and poorer, and so on. That’s a trend we noticed at least in the food security side. Once we do distributions, we base it on the food consumption score and the reduced coping strategies, and both are very, very low, especially the reduced coping strategies.”*

As expected, Khartoum used to be the wealthiest state in Sudan; however, those who worked in higher-income jobs and urban sectors, such as housing and industry, suffered considerable losses. The study estimates that since the start of the conflict, Khartoum suffered considerable income losses, with the *per capita* annual income reducing from more than 25,000 nominal Sudan pounds, to less than 15,000. Adding to the income reduction, there are also difficulties in accessing actual cash in the state, which further increased the vulnerability of families.

Qualitative data shed light into the challenges of using e-banking systems in the absence of fuel and power and, consequently, internet services. These factors affect individuals and families that are not able to cash from their

income or savings or cash assistance; it also limits access to support from the diaspora and affects businesses and humanitarian assistance. For example, a humanitarian organization indicated having problems with implementing its multi-purpose cash assistance MPCA programme in Khartoum because people could not withdraw it. Staff of another organization referred to community kitchens stopping or closing for lack of cash in hand or ability to do bank transfers, including in Sharg An Neel. Others note that cash is the most sought-after assistance in Khartoum. As a result, dietary diversity is expected to be negatively impacted, and complementary foods for infants and young children are not accessible to the families.

After several months without access, in October 2023, humanitarian food assistance was able to reach Khartoum once again. Several organizations conducted localized distributions. Given the size and the fluidity of the armed conflict in the state, with its impact on security and access, providing food assistance has been extremely challenging, with organizations conscious that the needs are likely much higher than the current capacity to deliver. Qualitative information indicates that the main hunger hotspots in Khartoum are in Um Bari, Um Durman, and Khartoum localities. Um Durman and Karrari seem to also be the localities that are currently relatively accessible, while others are considered a real challenge. Furthermore, even to seek assistance areas, the costs of fuel and transportation have become too high for most, and especially for the most vulnerable families. Finally, it was noted that a new batch of humanitarian food assistance is expected to arrive in Um Durman and Karrari in the coming weeks.

### Services (health pathways)

In the absence of quantitative data from Khartoum, the analysis of the services pathway will be mostly informed by qualitative data. According to a report from Care International in October 2023, the health vulnerabilities in Khartoum take a unique toll on care centres such as orphanages and elderly care/palliative centres, where residents have reportedly died for lack of care, food, and medicines.<sup>98</sup> This could be more prominent due to more urban environment and the intensity of the conflict, with almost half of the population becoming displaced.

In addition to disruptions in care and support systems, key informants have indicated that by May 2024, 61 per cent

95 IOM DTM April 2024 (DTM Sudan - Monthly Displacement Overview (08); link: <https://dtm.iom.int/reports/dtm-sudan-monthly-displacement-overview-08?close=true>)

96 CARE – Rapid Gender Evaluation, Oct 2023; <https://reliefweb.int/report/sudan/sudan-khartoum-al-gezira-east-darfur-south-darfur-rapid-gender-analysis-october-2023>

97 UNDP, IFPRI. Livelihoods in Sudan Amid Armed Conflict. April, 2024. <https://www.undp.org/arab-states/publications/livelihoods-sudan-amid-armed-conflict>

98 CARE - Rapid Gender Evaluation, Oct 2023. <https://reliefweb.int/report/sudan/sudan-khartoum-al-gezira-east-darfur-south-darfur-rapid-gender-analysis-october-2023>



---

of the health facilities were closed, and only 16 per cent remained fully operational.

Moreover, the disruptions of the health system in Khartoum have a broader impact, as they affect the entire country's access to medical supplies, lab tests, medicines, vaccinations, specialty care, and other elements of health provision. It is particularly challenging given that the cold chain storage facilities that can keep nearly all vaccinations are no longer accessible. Also, the limited number of partners in Khartoum, even before the conflict, is a challenge, even if partners have the will to operate in the state. As a result, operational health facilities have dropped significantly, from the pre-existing 855 facilities (secondary and primary care). In November 2023, it was already estimated that 65 per cent of the population in Khartoum was deprived from access to health care (Protection Cluster 13/11/2023). Doctors and other medical staff are also among those who are displaced and/or left the country, reducing the number of staff available to provide services. Those who remain in Khartoum are faced with complications with salary payments, cash availability, and security risks to access their workplace, sometimes even becoming a target (Bradi & Dawood, March 2024).<sup>99</sup> There were reports of plans to charge fees to patients in public services, which would increase the out-of-pocket expenditure on health for those who are already more vulnerable, thus further reducing their access to health services. Health care provision and seeking behaviour also vary with the conflict dynamics. At least nine hospitals were confirmed to be occupied by involved sides of the conflict, bringing destruction and obstruction and turning hospitals and their surroundings into battlefields (Bradi & Dawood, March 2024).<sup>100</sup>

Nutrition services face similar limitations. Currently, only 13 OTP centres are operational out of previous 78. There are key challenges in access and security, with the most functional OTPs in Karrari locality (through the Ministry of Health) now also facing challenges in receiving medical supplies. Nevertheless, there have been some improvements in the delivery of RUTF, and there are now a few (7) operational targeted supplementary feeding programme centres and others (up to 42 for the time being) are waiting to resume activity once more supplies are received. The high cost of fuel has been reported as an additional challenge to keep SC operating, and there is reliance on the use of generators for the services to function, especially during heat waves. Out of the 17 existing SC in the state, only one is currently operational. There have been reports of children older than 5 years being diagnosed with SAM with complications, reflecting a very worrying signal. Khartoum has clear indications that

older children are also impacted by the conflict, which has not yet been reported in other states.

While morbidity information or reports were not available, the described food and health situation, as well as the water shortages and reductions on water quality, would indicate an increase in diarrhoeal diseases and other infectious diseases, especially with the coming rainy season. Furthermore, given the shortage of medicines, a deterioration is expected in the health status of individuals with non-communicable diseases. Mental health support should also be prioritized, as it can have direct effect, for example, on breastfeeding practices and care for infants and young children.

### Practices (care pathways)

Qualitative information indicates that current access to clean water in Khartoum is a problem. Only two water treatment plants are operational in Um Durman locality of Khartoum: one in Al Manara (200,000m<sup>3</sup>/d) and one in Saliha (30,000m<sup>3</sup>/d). The remaining seven plants are not operational. In addition, the deterioration of the electricity system is negatively effecting water distribution, as it is difficult to secure continued water pumping. As a result, where households used to have water running in their taps, coming from the main water network, now communities are relying on boreholes. There have been reports of people fleeing because of the water shortages.

With the approach of the rainy season, there are also concerns over the capacity of the water pipes for water evacuation in Khartoum. This was a challenge even before the conflict started and it has likely been exacerbated by the conflict.

### Outcomes of acute malnutrition

There are no recent outcome data on acute malnutrition available for any locality in Khartoum.

---

99 The implications of the Sudan war on healthcare workers and facilities: a health system tragedy. March 2024. <https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-024-00581-w>

100 The implications of the Sudan war on healthcare workers and facilities: a health system tragedy. March 2024. <https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-024-00581-w>

## AREAS WITH SOME HUMANITARIAN ACCESS

In areas with some humanitarian access, several nutrition and mortality surveys have been conducted in the last six months covering seven localities in Blue Nile, Gedaref, and Kassala states. Results from those surveys revealed a deteriorating nutrition situation in children aged 6–59 months compared to previous assessments (S3M - 2018).

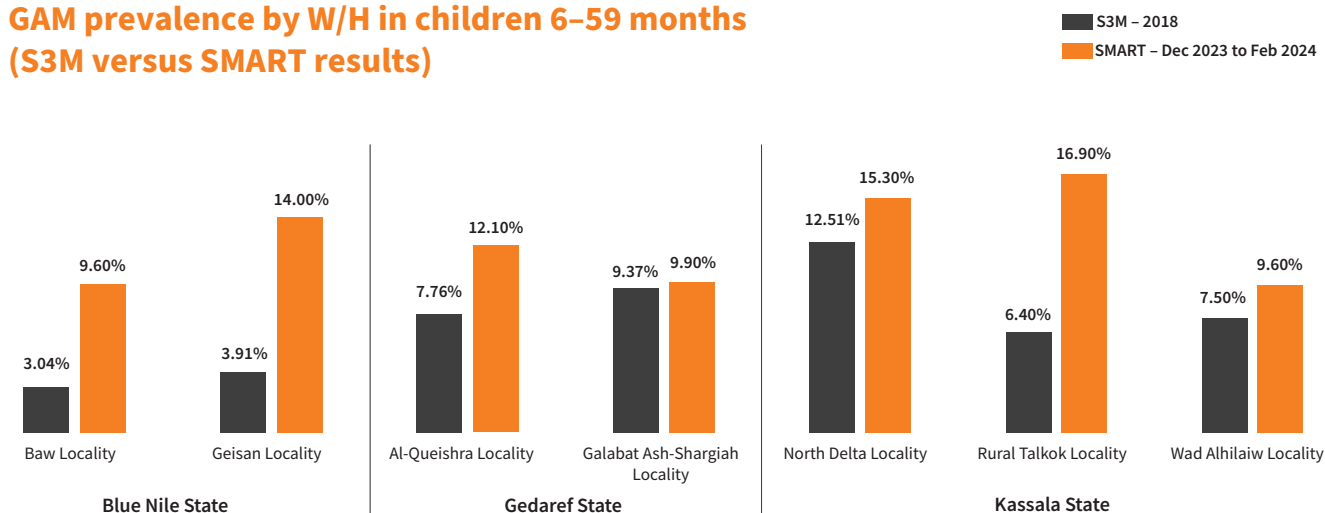
In Baw and Geisan localities (Blue Nile State), the GAM prevalence using WHZ has more than tripled, from 3.0 per cent to 9.6 per cent and from 3.9 per cent to 14.0 per cent, respectively. Similarly, the SAM prevalence (WHZ) in this state remains alarmingly high, at 1.7 per cent in Baw and 2.2 per cent in Geisan locality. In Al Qureisha and Galabal Ash Sharhiah localities (Gedaref State), the GAM prevalence by WHZ has not shown a significant rise, passing only from 7.8 per cent to 12.1 per cent and from 9.4 per cent to 9.9 per cent, respectively. However, the under-five mortality rate was found to be an alarming 2.82 deaths per 10,000 children under 5 (all causes) in Galabal Ash Sharhiah, exceeding the emergency thresholds. In the Kassala State, where SMART surveys were conducted in February 2024 targeting North Delta, Rural Talkok and Wad Alhilaiw localities, the GAM prevalence using WHZ

range from 9.6 per cent to 16.9 per cent in Wad Alhilaiw and Talkok respectively. Results from the Talkok locality showed an increase in GAM prevalence of more than 2.5 times when compared with the 2018 baseline (6.4 per cent), highlighting the urgency of the nutritional situation.

These SMART surveys also highlighted elevated levels of children under 5 suffering from one or more diseases, with particularly elevated levels in Blue Nile (64.6 per cent and 74.2 per cent in Geisan and Baw respectively) as compared to Gedaref state (31.4 per cent and 37.9 per cent in Galabal Ash Sharhiah and Al Qureisha respectively) and Kassala State (45.9 per cent and 44.8 per cent in Wad Alhilaiw and Talkok respectively). The proportion of children aged 6–23 months benefiting from age-appropriate dietary diversity ranged from 24.3 per cent (Baw locality) to 42.4 per cent (Al Qureisha locality).

In addition, in those seven localities with recent SMART surveys, the nutritional status of pregnant and breastfeeding women appears is worrying, with MUAC-GAM (<210 mm) ranging from 1.7 per cent in Al Queishra (Gedaref State) to 7.9 per cent in Geisan (Blue Nile).

### GAM prevalence by W/H in children 6–59 months (S3M versus SMART results)





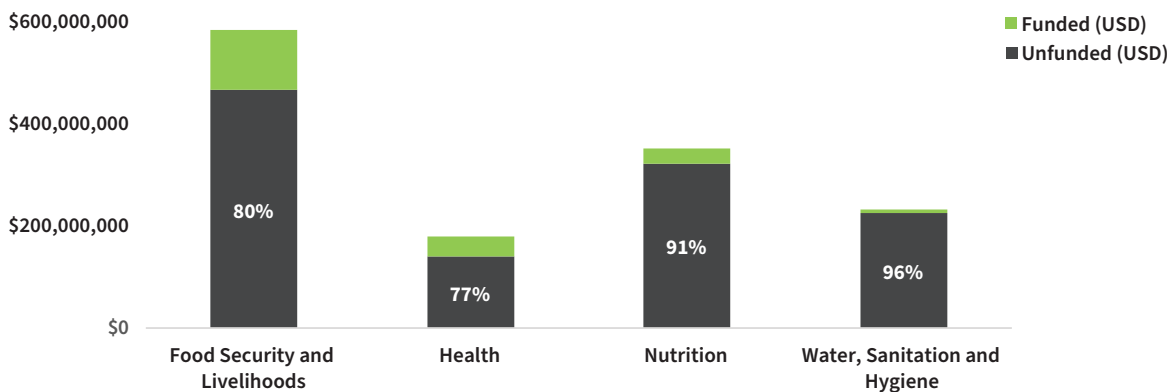
## FINANCIAL NEEDS

In 2024, funding shortfalls in the nutrition sector are a problem, with around 91 per cent of needs unfunded; this limits the coverage of nutrition services. Other nutrition-sensitive sectors also suffer from shortfalls in the financing of their humanitarian needs, with 77 per cent of needs left unfunded for health, 96 per cent for WASH and 80 per cent for food security. Together with nutrition, these are the four life-saving sectors. Due to the ongoing crisis, sectoral financial requirements for 2024 have increased by 20 per cent for the four life-saving sectors, as compared to 2022.

For the nutrition sector, the funding requirement has more than doubled, from US\$160 million in 2022 to US\$350 million in 2024, demonstrating the scale of the need.

However, to date, the four life-saving sectors are still largely underfunded (63 per cent underfunded), with the nutrition sector underfunded by 85 per cent. This financial situation for the four life-saving sectors considerably compromises the level of humanitarian operations and puts the lives of millions of children at risk.

### Level of funding for the four life - saving sectors (HRP, 2024)



May 2024

