

Mortality and Child Malnutrition in Maiwut County, Upper Nile State

March 2026 | South Sudan

Key Messages

- **Acute malnutrition remained at a critical level** in Maiwut, with a Global Acute Malnutrition (GAM) prevalence of **15.1%** weight-for-height Z-score (WHZ), exceeding the World Health Organization (WHO) emergency threshold (**15%**).
- **Combined GAM** reached **18.1%**, indicating a **high burden of acute malnutrition** among children aged 6–59 months.
- **Mortality indicators were below emergency thresholds**, with a Crude Death Rate (CDR) of **0.38** and an Under-Five Death Rate (U5DR) of **0.40** deaths per 10,000 per day.
- **Poor water and sanitation conditions persist**, with two-thirds of households (**68%**) relying on unimproved sources of water, and **91%** not treating the water, contributing to increased risk of disease and malnutrition.
- **Food insecurity was severe**, with nearly **25%** of households having **poor food consumption score (FCS)** and high reliance to **emergency (46%)** and **crisis (40%)** livelihood coping strategies.

Context and Rationale

Maiwut County is one of the counties classified under IPC AMN Phase 4 (Critical)¹, with persistent food insecurity, poor WASH conditions, disease outbreaks, and limited humanitarian access contributing to high malnutrition risks. The county has experienced increased displacement linked to conflict, cross-border movements from Sudan, and recurrent flooding, further straining already fragile livelihoods and basic services.

In response to the worsening humanitarian and nutrition crisis in Maiwut County, a survey was conducted to assess the current nutrition status of vulnerable populations. The objective was to support humanitarian planning, prioritize interventions, mobilize resources, and monitor the nutrition situation in the area.

Between 16 and 24 March 2026, REACH Initiative and Relief International conducted a Standardized Monitoring and Assessment of Relief and Transitions (SMART) survey across 40 clusters to assess nutrition, mortality, health, WASH, and food security indicators among households in the County^{2, 3, 4}. A total of 479 households and 507 children aged 6–59 months were assessed (94.5% response rate). The survey achieved an overall plausibility score of 11%, indicating good data quality according to SMART classification criteria.

Figure 1: Map of assessed locations



Child Nutrition

The survey findings indicate a **critical nutrition situation among children aged 6–59 months** in Maiwut County.

A total of **507 children** (256 boys and 251 girls) were assessed across 40 villages. Results show that the **prevalence of Global Acute Malnutrition (GAM) was 15.1%**, which exceeds the World Health Organization (WHO)⁵ emergency threshold and is classified as “**Critical**” under the IPC Acute Malnutrition framework. Some had **severe acute malnutrition (3.5%)**. One nutritional bilateral oedema case was observed during the assessment. Only **7.22%** of children aged 6 – 23 months met the **minimum acceptable diet (MAD)**, and **18.89%** met **minimum dietary diversity (MDD)**, indicating inadequate feeding quality and frequency, which might also contribute to the high rates of malnutrition.

In addition to acute malnutrition, the survey indicates the presence of chronic undernutrition among children. **Stunting prevalence was 16.9%**, while **underweight prevalence was 19.6%**, reflecting both long-term and recent nutritional deficits.

This level of acute malnutrition indicates a serious public health concern and suggests the need for expanded nutrition screening, treatment, and prevention activities.

Proportion of children aged 6-59 months showing malnutrition



15.1% Prevalence of **Global Acute Malnutrition (GAM)** (95% CI = 11.2-20.0)

! Exceeding the 15% emergency threshold



16.9% **Stunting** prevalence



19.6% **Underweight** prevalence

Using CDR and GAM to assess severity³

The **Crude Death Rate (CDR)** and **Global Acute Malnutrition rate (GAM)** are two key indicators used to measure the severity of a humanitarian crisis. The CDR is assessed against the global World Health Organization (WHO) ‘emergency threshold’, which is **one death per ten-thousand people per day**. The GAM emergency threshold is 15%, indicating the proportion of children six to fifty-nine months who are acutely malnourished. The **Under-Five Death Rate (U5DR)** is the number of deaths among children under five years of age per 10,000 children per day. Other key indicators and definitions include:

GAM (Global Acute Malnutrition): Percentage of children who are wasted (too thin for their height) or have nutritional oedema.

SAM (Severe Acute Malnutrition): The most serious form of acute malnutrition, associated with a high risk of death.

WHZ (Weight-for-Height Z-score): A measure used to identify children who are too thin for their height (acute malnutrition).

95% Confidence Interval (CI): The range within which the true value is likely to fall.

Mortality and Child Mortality

Mortality indicators were below emergency thresholds, with a **Crude Death Rate (CDR)** of **0.38** deaths per 10,000 persons per day and an **Under-Five Death Rate (U5DR)** of **0.40** deaths per 10,000 children per day. Most deaths were due to **illness (80%)**, followed by injury or trauma (20%), and primarily occurred in the current locations (70%). Continued mortality surveillance remains important in the context of food insecurity, disease outbreaks, and access limitations.

Health: Child Morbidity and Vaccination

High morbidity among children was reported in the two weeks preceding the survey, with **25% of children aged 6–59 months reported to have been ill**. The most commonly reported illnesses were **fever (85%)**, followed by **diarrhoea (56%)** and **cough (37%)**. Other illnesses were reported in **9%** of children, while no measles cases were reported during the recall period.

Preventive health service coverage among children aged 6–59 months was reported as follows:

95% received **Vitamin A** supplementation

93% had **Deworming** coverage

27% underwent **vaccination for Measles**

While coverage of Vitamin A supplementation and deworming was high, measles vaccination coverage remained comparatively low, indicating potential gaps in health services for essential vaccines predisposing the children to low immunity.

Water, Sanitation & Hygiene (WASH)

The WASH conditions in Maiwut were increasing the risk of disease transmission and malnutrition⁶. In terms of **access to water**, most households had access unimproved water sources (**68%**), mostly from unprotected wells (31%), surface water (25%), and boreholes (18%). Most households collected water from a location at a <30 minutes distance (67%), or inside the compound (20%).

Proportion of respondents reported type of drinking water source and drinking water treatment



68% of households had access to a **non-improved water source**



91% of households **did not treat their water before drinking**

With **91%** of households not treating drinking water, children are at increased risk of consuming contaminated water, which can lead to diarrhoeal diseases and other water-borne infections. Recurrent diarrhoea reduces nutrient absorption, increases nutrient losses, and suppresses appetite, all of which contribute directly to wasting and acute malnutrition⁷.

Open defecation was widespread (92%), and only 5% of households had confirmed soap availability during the survey, indicating poor hygiene conditions and elevated risks for communicable diseases⁸.

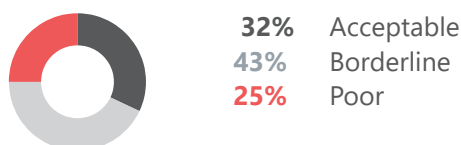
Food Security and Livelihoods (FSL)

Food security among households in Maiwut County was limited, influenced by displacement, reduced agricultural production, market disruptions, and constrained access to food⁹.

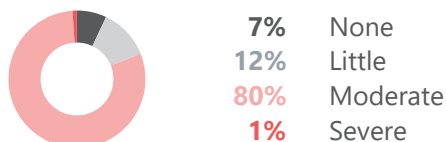
Indicators point to **poor food consumption and dietary diversity**, with **43%** of households classified as having **borderline** and **25%** **poor** Food Consumption Scores (FCS). A high prevalence of **moderate household hunger** was observed (**80%** based on the Household Hunger Scale, HHS). In addition, households reported widespread use of negative coping strategies, with **46%** in the **emergency** phase and **40%** in the **crisis** phase of the Livelihood Coping Strategy Index (LCSI).

These findings reflect constrained food access and limited dietary intake, alongside continued reliance on coping mechanisms, indicating pressures on household food security and livelihoods.

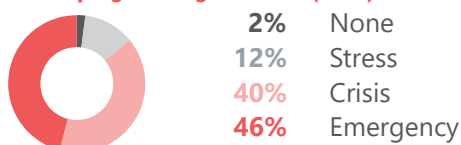
Food Consumption Score (FCS)



Household Hunger Scale (HHS)



Livelihood Coping Strategies Index (LCSI)



Endnotes

- South Sudan: IPC-AMN Situation December 2025 – March 2026 and April-July 2026 ([Link](#))
- SMART Methodology Manual 2.0 ([Link](#))
- Integrated Phase Classification Technical Manual Version 3.1: Evidence and Standards for Better Food Security and Nutrition Decisions ([Link](#))
- The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response ([Link](#))
- Malnutrition in Children, WHO 2025 ([Link](#))
- South Sudan Cholera Dashboard, WHO 2026 ([Link](#))
- Undernutrition and Water, Sanitation and Hygiene, WaterAid 2015 ([Link](#))
- Why Handwashing, Global Handwashing Partnership 2017 ([Link](#))
- SMART Survey Report in Luakpiny/Nasir County, Upper Nile State, South Sudan, REACH August 2022 ([SSD22020b - LuakpinyNasir SMART Survey Final Report.pdf](#))

Conclusion

The findings from the Maiwut County SMART survey indicate a critical nutrition situation, with a Global Acute Malnutrition (GAM) prevalence of 15.1%, exceeding the WHO emergency threshold and classified as IPC Phase 4 ("Critical").

The broader context was characterized by limited food access, poor dietary diversity, poor or sub-optimal infant and young child feeding practices, suboptimal water and sanitation conditions, and a high burden of disease. Food security indicators highlight widespread constraints on household food consumption, alongside substantial reliance on coping strategies.

These results point to multiple, overlapping risk factors associated with acute malnutrition, including constrained food access, inadequate diet quality, poor WASH conditions, and high levels of illness. Although mortality indicators remained below emergency thresholds, the coexistence of these factors suggests continued vulnerability among children and households.

Methodology Overview

The SMART survey in Maiwut County utilized a cross-sectional design and two-stage cluster sampling, adhering to SMART guidelines to assess nutritional status, mortality, health, food security, and WASH indicators. The first stage involved selecting 40 clusters based on population size, followed by random selection of 476 households in the second stage. Eligible children aged 6–59 months underwent anthropometric assessments. Data were collected using digital questionnaires to enhance accuracy. Six trained teams gathered data on demographics, nutrition, and health, with anthropometric measurements taken according to standard procedures. Comprehensive staff training ensured data quality, supplemented by routine checks, daily plausibility checks and software assessments. Final analyses conformed to SMART, WHO, and IPC AMN guidelines for reliable outcomes in humanitarian programming.



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