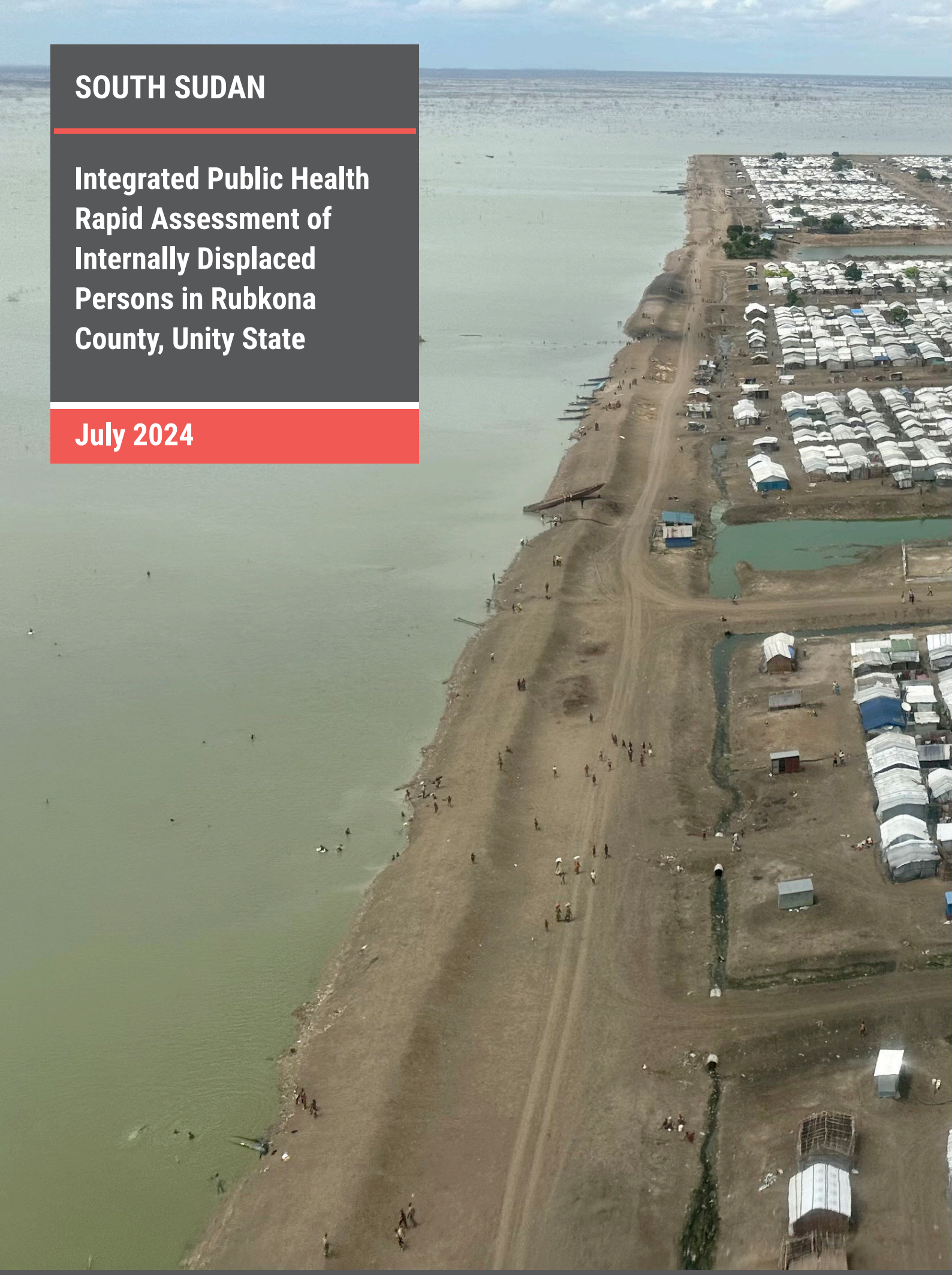

SOUTH SUDAN

Integrated Public Health Rapid Assessment of Internally Displaced Persons in Rubkona County, Unity State

July 2024

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REACH Informing more effective humanitarian action

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REACH facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery, and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT). For more information, please visit our website. You can contact us directly at: geneva@reach-initiative.org and follow us on Twitter @REACH_info.

KEY FINDINGS

- **Rubkona County is grappling with an unprecedented humanitarian crisis**, hosting around 175,000 internally displaced people (IDPs) across several sites[1]. Since 2013, the county has faced **escalating displacement due to conflict, flooding, and worsening living conditions**, exacerbated by severe flooding in 2021. The influx of over 44,000 returnees from Sudan since April 2023[2] has **overwhelmed existing resources and healthcare facilities, leading to severe food shortages and deteriorating population health conditions**. Future funding uncertainties may further strain the capacity to address these worsening conditions.

- **Assessment findings indicate that most households residing in the selected displacement sites are experiencing food consumption gaps indicative of IPC AFI Phase 4 (emergency), with some possible pockets of IPC AFI Phase 5 (catastrophe) conditions, signalling a deterioration in food security from the same period in 2023.** The worsening food security conditions in the IDP sites were due to increased prices of essential food items, the influx of returnees from Sudan, and limited access to land for livelihood activities.

- Critical WASH conditions were found across all 3 assessed locations. **Practicing open defecation was reported by 38% of households, with the highest rate in Rotriak, where 93% of households reported** this sanitation method **highlighting a severe lack of sanitation facilities and significant health risks.** In the Bentiu IDP Camp, community members and humanitarian key informants reported that most **latrines were full and lacked consistent desludging, increasing the risk of disease outbreaks.**

- Health emerged as a priority need, with morbidity primarily driven by inadequate WASH conditions and a rising incidence of infectious diseases. Across the 3 locations, 41% of individuals reported to have been ill in the two weeks prior to data collection. The severity of public health indicators was similarly high across all the assessed IDP sites, though population in Rotriak reported slightly more unmet health needs (17%) compared to those in Bentiu IDP camp (10%). **Moreover, health partners mentioned that in Rotriak, health partners pulled out due to lack of funding, and health facilities experienced stockouts of drugs.** All evidence suggests that health conditions may continue to worsen on top of devastating WASH conditions and a poor medical supply chain from Juba.

- Shelter appears to be a critical issue across the IDP sites. Although 94% of the assessed households across the 3 locations live in Rakooba[3], **52% of these households reported major roof damage, posing a risk of collapse. This issue is particularly severe in Rotriak (61%) and Bentiu town IDP sites (57%) compared to Bentiu IDP camp (37%).** In the Bentiu IDP camp, participants reported **a lack of space to construct new shelters, causing overcrowding in shared shelters**. In the other IDP sites, the poor shelter conditions were attributed to a lack of plastic sheets and building materials.

[1] CCCM monthly IDP updates: South Sudan
2 UN-IOM and UNHCR. Population Movement from Sudan to South Sudan Dashboard
3 Rakooba: refers to a traditional shelter or hut. These shelters are typically made from locally available materials such as grass, sticks, and mud.

CONTENTS

List of Acronyms

AFI:	Acute Food Insecurity
AMN:	Acute Malnutrition
CCCM:	Camp Coordination and Camp Management
FCS:	Food Consumption Score

FGD:	Focus Group Discussion
FSL:	Food Security and Livelihoods
FSNMS:	Food Security and Nutrition Monitoring System
HC	Host community
HH:	Household
HHS:	Household hunger scale
IDP:	Internally Displaced Person
IMWG	Information Management Working Group
IPC:	Integrated Phase Classification
IPHRA:	Integrated Public Health Rapid Assessment
KI:	Key Informant
LCS:	Livelihood Coping Strategies
MSF:	Médecins Sans Frontières
MSSMEB:	Multi-sectoral Survival Minimum Expenditure Basket
PLW:	Pregnant and Lactating Women
SSD:	South Sudan
WASH:	Water Sanitation and Hygiene

List of Figures, Tables and Maps

CONTEXT AND RATIONALE

Rubkona County hosts approximately 175,000 internally displaced people (IDPs) across at least thirteen sites in Rubkona Town, Bentiu Town, and Rotriak, the most of any single county in South Sudan[4]. Since 2013, Rubkona's population has increased sharply due to successive waves of displacement caused by conflict, flooding, and poor living conditions in surrounding areas[5].

Since the unprecedented flooding in 2021, most of Rubkona County remains inundated[6]. The floods caused widespread displacement, with many residents of Rubkona and Bentiu towns, especially those living in the southern part of the county, forced to flee to higher-ground areas like Bentiu Town, Bentiu IDP camp, and Rotriak. This drastically reduced the viability of traditional livelihoods, including crop cultivation and cattle rearing, for most of the population, and restricted mobility across most of the county. The flooding compounded the challenges faced by residents who were already displaced or vulnerable due to the conflict that began in 2013.

Since the onset of the Sudan crisis in April 2023, Rubkona has received more than 44,000 South Sudanese returnees, exacerbating the already critical humanitarian situation[7]. This rapid and large influx of people has led to the spread of diseases in highly congested displacement sites and has overwhelmed healthcare providers and sanitation facilities[8]. The influx has also worsened shortages of already scarce resources, including food, as the arriving populations have significantly compromised coping capacities and possess very few assets. Meanwhile, the disruption of supply routes from Sudan has driven up the prices of essential food commodities[9].

The influx of returnees, high prices, and disease outbreaks are likely to have severe impacts on already acute public health needs, along with the anticipated flooding, given the pre-existing vulnerabilities in the population. Without a scale-up of emergency health and food assistance service coverage, the population may be at higher risk of disease and severe/adverse health outcomes in the projected period. In the latter half of 2023, the Food Security and Nutrition Monitoring System (FSNMS) Round 29 estimated a Global Acute Malnutrition (GAM) prevalence of 28% — approaching the acute malnutrition prevalence consistent with famine (30%). The October 2023 IPC projected that the GAM rate would surpass this threshold between April and June 2024, and between April and July, the county is classified in IPC AFI Phase 4 "Emergency[10]." Qualitative assessment conducted by REACH in August 2023 corroborate extremely high needs. Assessments identified the use of extreme coping strategies to mitigate large food consumption gaps, including the migration of household members into active conflict zones, the near-exclusive consumption of water lilies, sex work, and the near-total liquidation of household assets[11].

Rubkona County is facing an unprecedented humanitarian crisis marked by severe displacement, extreme food insecurity, and deteriorating health conditions. The convergence of multiple crises demands immediate and sustained multi-sectoral support to address the needs of the IDP population. This report aims to assess specific public health outcomes and their drivers, to better inform humanitarian actors.

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[4] ibid
[5] Population increase
[6] UN flooding
[7] UN-IOM and UNHCR. "Population Movement from Sudan to South Sudan." Dashboard.
[8] MoH-WHO: Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin. South Sudan
[9] UN-IOM: Implementing flood mitigation measures in South Sudan's Rubkona County, South Sudan
[10] IPC. "Integrated Food Security Phase Classification (IPC) for Acute Food Insecurity and Acute Malnutrition. November 2023 to July 2024." November 2023.
[11] REACH "South Sudan cross-border displacement: Rapid food security assessment in areas of return - Rubkona County".

METHODOLOGY

Between 18 and 27 July 2024, REACH conducted primary data collection using a mixed-methods approach consisting of 323 household (HH) surveys, 5 Key Informant Interviews (KIIs), and 6 Focus Group Discussions (FGDs). The sample size for the HH surveys was estimated through a two-stage stratified simple random sampling design, intending to provide localized results which are representative for the target population assessed, however not generalizable across the overall IDP population in Rubkona County.

The population of interest consists of residents of informal and formal sites (including returnees and host community members) in Rubkona County. This group was divided into three geographic strata: Rotriak, Bentiu IDP camp (formerly the Bentiu "protection of civilians site" or "PoC" site), and Bentiu Town IDP sites (Sites A, B, C, D and E). These three strata were selected based on the assumption that they are hosting roughly homogeneous population groups, meaning they have similar access to services such as healthcare and humanitarian food assistance and are subject to similar standards of living conditions.

The target number of households was 110 per stratum, estimated using the assumptions of a 95% confidence level, a 10% margin of error, and a 10% non-response rate (buffer). Households were distributed proportionally across sites according to their population size, and random location sampling techniques were used for their selection.

Qualitative data collection included five focus group discussions (FGDs) conducted with community leaders, community members, and implementing partners, as well as 11 key informant interviews (KIIs) conducted with community leaders, implementing partners, and community members. A secondary data review was conducted prior to the assessment to better understand inter-group relations, population movement dynamics, humanitarian presence, and service provision.

Table 1 - breakdown of qualitative data collection

Key Informant Interviews	
Community leaders FGDs	2
Community members FGDs	2
Male FGDs	3
Mixed FGDs	1
Community leader KIs	2
Community member KIs	3
Implementing partners FGD	1
Implementing partners KIs	6

Key definitions

Internally displaced persons[12]: Households who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of

[12] IOM- Key migration terms

armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border.

IDP returnees: HH who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border and who has since returned to their homes or places of habitual residence.

Host community: Households who have never been displaced by the crisis and consider the assessed location as their area of origin and places of habitual residence.

Refugee returnee (who returned home): Households who have temporary been forced to flee their country because of persecution, war or violence (refugee) and who have since returned to their homes or places of habitual residence.

Assessment objectives

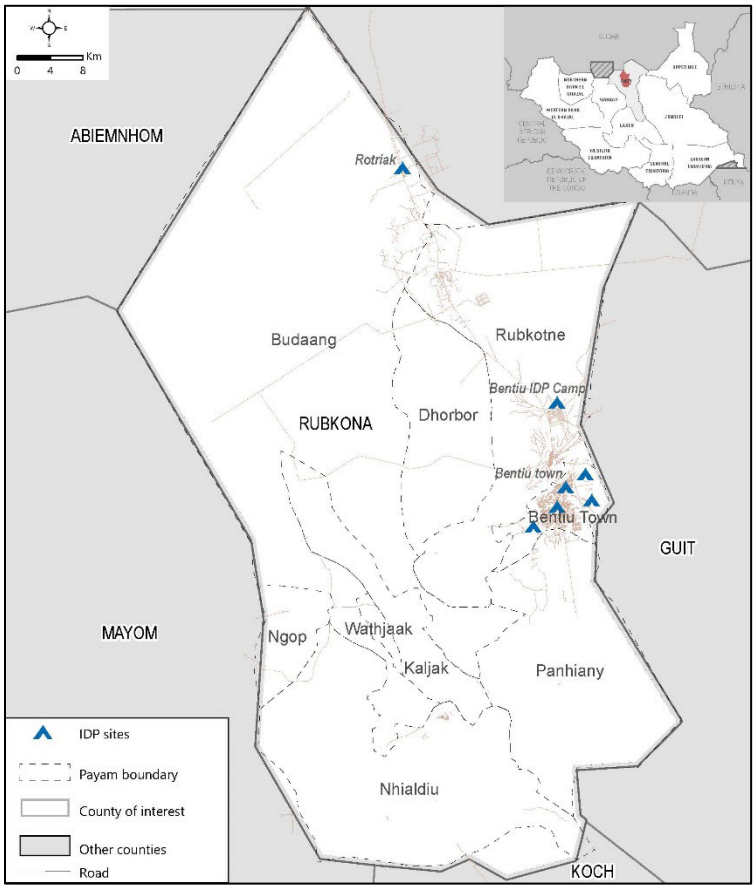
To assess the severity of public health outcomes and identify initial public health priorities for humanitarian response to mitigate excess morbidity, across the 3 main IDP sites in Rubkona County.

- To understand the demographic composition of the target population.
- To estimate the proportion of the population with health care needs in the two weeks prior to data collection (any health care needs, unmet needs, needs by sex/age/symptom).
- To understand the main barriers for the target population in accessing health and nutrition services.
- To estimate the coverage of Vitamin A supplementation among children 6-59 months of age.
- To estimate the coverage of measles vaccination among children 9-59 months of age.
- To estimate the coverage of oral cholera vaccinations among people 5+ years of age.
- To estimate the proportion of the target population experiencing food consumption gaps, both in terms of quantity and diversity.
- To estimate the proxy coverage of emergency food security interventions in the target population.
- To understand the availability and utilization of food at the household level.
- To understand the main barriers for the target population in accessing food.
- To estimate the proportion of the population using livelihoods based coping strategies to access food, or other basic needs, and their severity.
- To estimate the proportion of the population experiencing water consumption gaps, both in terms of quantity and quality (Liters per person per day, main source of drinking water).
- To estimate the proportion of the population with access to improved sanitation facilities
- To understand the main barriers for the target population in accessing water.
- To estimate the proportion of households with access to basic WASH NFIs.
- To assess the main shelter types being used by the population.
- To assess the prevalence of shelter damage among the population.
- To estimate the proportion of the population with access to critical non-food items (soap, mosquito nets, water treatment tablets, blankets, tarpaulin, cooking supplies, jerry cans, etc.)

Geographical scope

The assessment was conducted in Rubkona County, Unity State, covering three IDP sites: (1) Bentiu IDP camp, (2) Rotriak, and (3) Bentiu town Sites A, B, C, D and E.

Figure 1 - Map of assessed IDP sites



FINDINGS

Participant Characteristics

The assessment surveyed 323 households comprising 2,206 individuals, with an average household size of six members. The gender distribution of respondents was 56% female and 45% male. A significant portion of the household heads, 89%, were married. Within these households, 13% had at least one child up to 2 years old, and 12% had at least one child between three and five years old.

Table 2 - Participant Characteristics

Household survey	Bentiu town sites (n= 111)	Bentiu IDP Camp (n= 107)	Rotriak (n= 105)	Overall (n=323)
Household residency status				
IDPs	86%	92%	50%	76%
Host	0%	5%	7%	4%
IDP Returnee	13%	2%	32%	16%
Refugee Returnee	2%	2%	11%	5%
Age groups				
Children aged 0-2 years	15%	12%	13%	13%
Children aged 3-5 years	13%	12%	11%	12%
Gender of household members				
Female	55%	57%	56%	56%
Male	45%	44%	45%	45%
Gender of surveyed household respondent				
Female	96%	99%	94%	96%
Male	5%	1%	6%	4%
Head of household marital status				
Married	87%	88%	92%	89%
Single	6%	7%	3%	5%
Widowed	7%	6%	5%	6%

Reported priority needs

Household survey findings indicated that food and shelter were the top priority needs, followed by healthcare and WASH. Similarly, focus group participants noted food, WASH, and healthcare as the key priorities for the population in the assessed IDP sites.

The KIs and FGD participants reported that the food insecurity in the camps was concerning. Food prices had increased drastically due to market fluctuations, and humanitarian food assistance was not enough to sustain, forcing most of the population to rely on water lilies.

Also, shelter was a critical issue across the assessed locations. According to participants, many live in precarious, overcrowding conditions, where families are forced to share limited space. This not only reduces privacy but also increases the risk of disease transmission. The lack of plastic sheeting further contributes to poor shelter conditions.

The issue of inadequate toilets and latrines in the IDP camps was reported as a serious concern that impacted health, hygiene, and overall living conditions. The large number of people in these camps often led to overcrowded sanitation facilities, with too few toilets and latrines to meet the needs of the population. Poor hygiene practices and sanitation in the camps, along with inadequate waste disposal, could significantly increase health risks, including the spread of diseases.

Table 3 - Priority Needs

Household-level needs				
Priority needs	Bentiu town sites (n=111)	Bentiu IDP Camp (n=107)	Rotriak (n=105)	Overall (n=323)
First priority need				
Food	49%	61%	54%	55%
Shelter materials (tarpaulin, or other material)	29%	13%	22%	21%
WASH NFIs (Soap, Buckets, etc)	6%	7%	10%	7%
Second priority need				
Food	29%	22%	30%	27%
Shelter materials (tarpaulin, or other material)	24%	16%	32%	24%
WASH NFIs (Soap, Buckets, etc)	14%	27%	18%	20%
Third priority need				
Healthcare	23%	18%	25%	22%
WASH NFIs (Soap, Buckets, etc)	21%	17%	22%	20%
Shelter materials (tarpaulin, or other material)	15%	25%	14%	18%

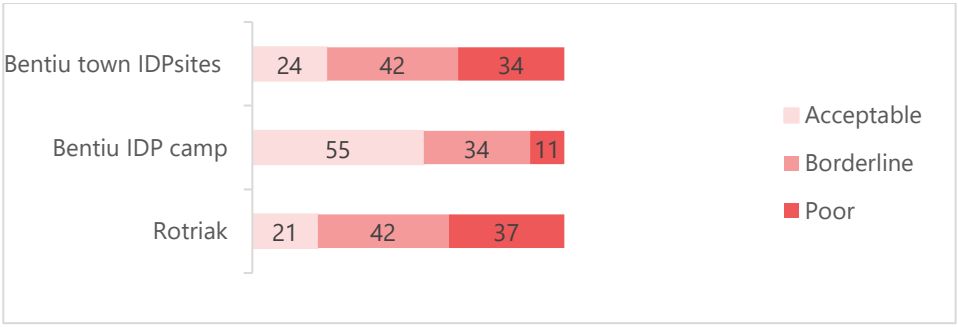
Food Security and Livelihoods

Overall, across all IDP sites, **most households were found to be experiencing food consumption gaps indicative of IPC AFI Phase 4 (emergency), with some pockets possibly facing IPC AFI Phase 5 (catastrophe) conditions based on the Household Hunger Score, indicating an extremely severe food security crisis.** 28% of households have "poor" food consumption, 39% are at a "borderline" level, and only 33% have an "acceptable" level of Food Consumption Score (FCS). According to the Household Hunger Scale (HHS), 63% of households are experiencing "moderate" hunger (indicative of IPC P3), 22% "severe" hunger (P4), and 12% "very severe" hunger (P5). **The highest proportion of households with a Household Hunger Score of 5-6 (indicative of IPC AFI Phase 5) are in Rotriak, (24%), compared to 6% in the Bentiu IDP camp and 8% in the Bentiu town IDP sites.** Among the households in Rotriak experiencing "very severe hunger," which is the highest category for household hunger score, 64% were employing emergency livelihood coping strategies, and all (100%) had poor food consumption score, despite 79% of the households being registered for food assistance. Additionally, 65% of households reported that their primary source of income is the sale of collected firewood, charcoal, and wild foods. However, KIs reported that most women fear accessing nearby bushes to collect firewood and wild foods due to the risk of gender-based violence, which reduces households' capacity to engage in livelihood activities.

The deteriorating food security situation is driven by high staple food prices and a decline in income-generating opportunities due to worsening macroeconomic conditions and funding shortfalls for NGOs. Additionally, the significant influx of returnees and IDPs, persistent floodwaters, and violence, like banditries along the roads, and restricting movement, have further compounded the crisis. The situation would have been worse if not for humanitarian food assistance. However, participants in FGDs and KIIs reported that they often share food assistance with friends and relatives who are not registered to receive aid, making it insufficient to sustain them for a month. For instance, in the Bentiu IDP camp, participants reported that 50 kg of cereal was typically shared among five individuals, meaning each person is receiving 10 kg per month, which proved insufficient and unsustainable.

Households rely on less preferred foods and reduced meal frequency to only one meal per day, with the most vulnerable households sometimes going a day without eating. The high market prices of essential food commodities is making the situation worse and some households report relying on only water lilies (less preferred vegetables) and fish for several weeks. Most participants reported that the nearby water lilies were exhausted or nearly exhausted, forcing women to travel long distances through floodwater. The declining nationwide economic conditions seems to have been worsened in Rubkona county (the study county) by trade disruptions with Sudan since the onset of the Sudan crisis. This disruption has made traders rely on Juba for the supply of goods which is a long distance by land. The connection between Juba and Rubkona is even made more difficult because of flooding since 2021 disrupting road access. This disruption in the markets could explain the 73% (in Bentiu) and 87% (in Rubkona town) increase in the MSSMEB Food Basket between April and July 2024.[13]

Figure 2 - Food Consumption Score, by IDP locations



The most common food source in the last 7 days reported by IDP households overall was humanitarian food assistance (55%), followed by markets (17%). Consumption of humanitarian food assistance was less commonly reported in Rotriak (42%) than in the Bentiu IDP camp (64%) and Bentiu town IDP sites (60%). This difference could be explained by the different cycles of food assistance in these IDP sites.

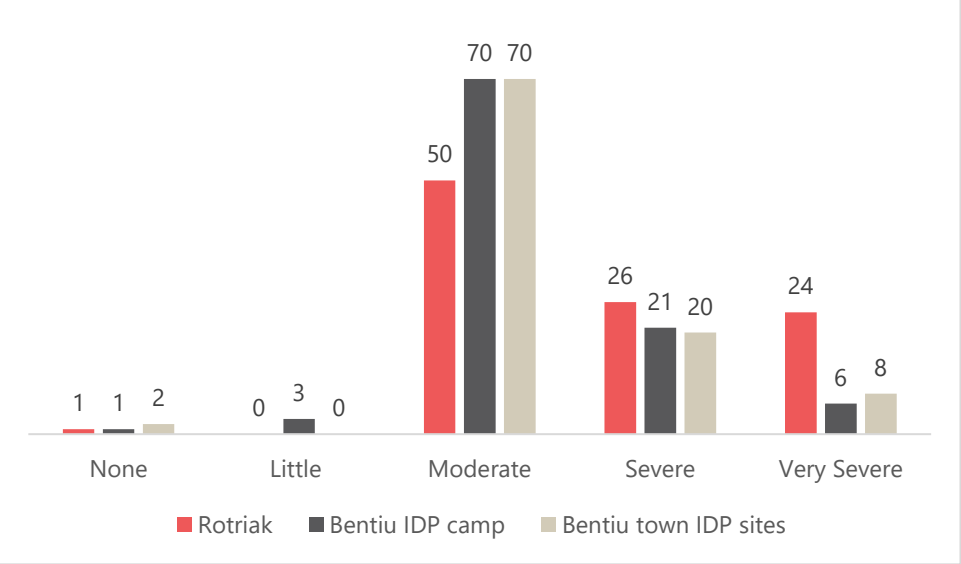
The second most common food source reported in Bentiu IDP camp (40%) and Rotriak (30%) was the market. In Bentiu town IDP sites, however, gathering (32%) came second and market came third (27%). This may be because households in Bentiu town IDP sites reported not having enough food available (74%) compared to Bentiu IDP camp (70%) and Rotriak (60%), making the population highly reliant on water lilies according to the FGD and KI participants.

More than half of the households (57%) reported that their current primary source of income was selling firewood, charcoal, and wild food. However, FGD and KI participants noted that since the onset of unprecedented flooding in 2021, most of Rubkona County remains inundated, drastically reducing the viability of traditional livelihoods, including crop cultivation and cattle rearing, for most of the population, and restricting mobility across the county. In Rotriak, FGD and KI participants reported that a new wave of floodwater had started, with some people already vacating their homes at the time of data collection. Those who cultivated were worried that their crops would be washed away. Humanitarian partners also mentioned that those IDPs with access to dry land were reluctant to

[13] MSSMEB: An indicator that represents the minimum cost of the food items required to support a six-person household for one month.

cultivate this year due to the anticipated flooding, which would increase their dependency on humanitarian food assistance.

Figure 3 - Percentage of Households Hunger Scale category by site



The livelihood coping strategy indicator is defined as the share of the population who adopted coping strategies of different severity levels in the 30 days prior to data collection or exhausted them within the 12 months prior to data collection. Households (HHs) reported widespread usage of negative coping strategies to meet their essential needs. Overall, 55% of households reported having deployed at least one emergency coping strategy as their most severe type of livelihoods coping strategy, while this was the case for 4% of households for crisis coping strategies and 23% of households for stress coping strategies. Another 8% of households had reportedly not utilized any type of livelihoods coping strategies.

Figure 4 - Livelihood Coping Strategies used in the 30 days prior to data collection, by % of HHs

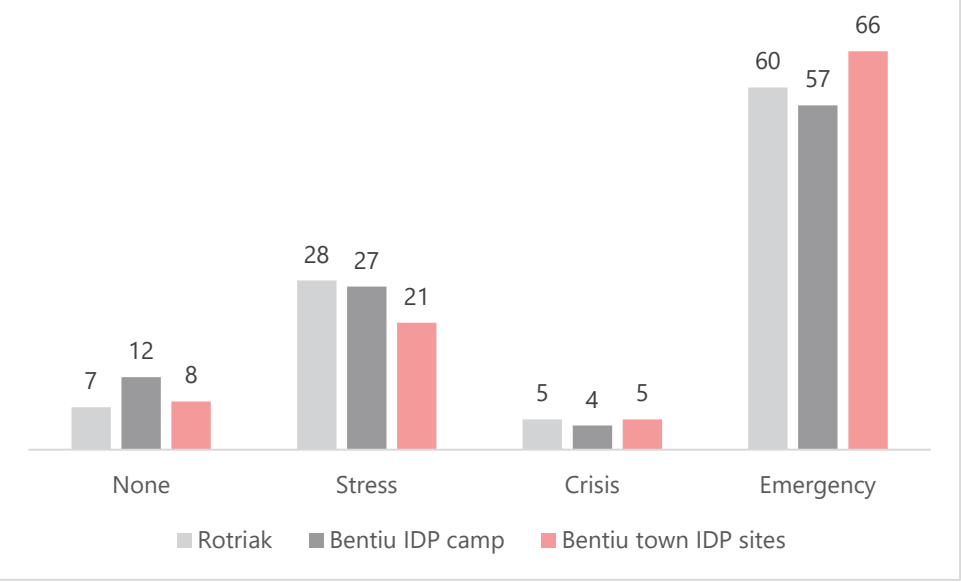


Table 4 - Different negative coping strategies adopted by households (disaggregated by severity):

Livelihood Coping Strategy	Category	% of population using LCS	% of population that has exhausted LCS	Total % of using of exhausted LCS
Send household members to eat with another household	Stress	42%	3%	45%
Sell more animals than usual for this time of year	Stress	13%	2%	15%
Borrow money or purchase food on credit	Stress	61%	0%	61%
Gather wild foods more than normal for this time of the year	Stress	29%	3%	32%
Sell productive assets or means of transport (fishing net, hoe, axe, spear, hooks, wheelbarrow, bicycle, plough, etc.)	Crisis	14%	7%	21%
Send more household members than normal to cattle and/or fishing camps	Crisis	15%	2%	17%
Sell or eat seeds intended for planting this season	Crisis	23%	1%	24%
Sell or slaughter the last of your cows and goats	Emergency	7%	1%	8%
Travel to another village or cattle camp to look for food	Emergency	36%	2%	38%
Beg other community members for food	Emergency	37%	2%	39%

Table 5 - Results of Food Security and Livelihood (Core)

Food Consumption Score (FCS)	Bentiu town sites (n=111)	Bentiu IDP Camp (n=107)	Rotriak (n=105)	Overall (n=323)
Acceptable	23%	55%	21%	33%
Borderline	42%	34%	42%	39%
Poor	34%	11%	37%	28%
Household Hunger Scale (HHS)				
None/slight	2%	1%	1%	1%
Little	0%	3%	0%	0%
Moderate	70%	70%	50%	63%
Severe	20%	21%	26%	22%
Severe Catastrophe	8%	6%	24%	12%
Reduced Coping Strategy Index (RCSI)				
High	72%	65%	80%	72%
Medium	27%	34%	20%	27%
Low	1%	1%		1%
Main food sources				
First food source				
Humanitarian food assistance	60%	64%	42%	51%
Market (purchase cash or credit)	10%	17%	24%	17%
Gathering	14%	4%	11%	9%
Second food source				
Market (purchase cash or credit)	27%	40%	30%	32%
Gathering wild food	32%	9%	9%	19%
Support from neighbors/relatives	4%	11%	10%	10%

Table 6 - Average number of days households across 3 locations employed the below different coping, in the 7 days prior to data collection

Coping mechanism	Mean
Rely on less-quality food	4
Borrowing	2
Reducing meal size	4
Reducing meals for adults	3
Reducing meal number	4

Table 7 - Results of Food Security and Livelihood (Supplemental)

Main barriers to accessing food	Bentiu town sites (n=111)	Bentiu IDP Camp (n=107)	Rotriak (n=105)	Overall (n=323)
Not enough food is available	74%	70%	60%	68%
Transportation to food source too expensive	51%	21%	49%	40%
Live too far from food sources/no means of transport	45%	16%	43%	35%
Damage to the main source of food	38%	21%	38%	32%
Main source of income				
First main income source				
Selling of collected firewood, charcoal, wild foods	60%	45%	68%	57%
Salary and wages (professional, religious/spiritual or service industry, etc.)	7%	11%	4%	7%
Second main income source				
None	28%	16%	23%	22%
Selling of collected firewood, charcoal, wild foods	24%	22%	8%	18%
Main source of energy used for food preparation				
Firewood	83%	54%	86%	75%
Coal (Charcoal, Mineral charcoal)	14%	44%	14%	24%
Livelihoods Coping Strategies Index				
None	5%	10%	7%	8%
Stress	19%	23%	26%	23%
Crisis	5%	4%	4%	4%
Emergency	59%	50%	55%	55%
Households registered and receiving a general food distribution/cash/voucher				
Yes	89%	95%	59%	81%
No	15%	5%	41%	19%
Food security and livelihood assistance modality				
Food in kind	86%	87%	90%	88%
Cash	14%	13%	10%	13%
Food vouchers	1%	0%	0%	0%

The food security situation remains critical in the assessed locations despite significant investments by humanitarian organisations. This includes the resumption of 12-month assistance cycles in the Bentiu IDP camp as of November 2023 while in the Bentiu town IDP sites and Rotriak the lean seasonal. This measure was taken due to concerns raised during the September IPC 2023 analysis, which indicated that the population of Rubkona County would be at risk of famine if humanitarian food assistance (HFA) were discontinued between August 2023 and January 2024. The assessment findings indicated that the surveyed population continues to experience substantial food consumption gaps, which may worsen due to anticipated funding shortfalls next year. A KI reported that all registered IDPs were receiving food assistance, but this may change next year because WFP is considering a shift to household vulnerability-based targeting to ensure that only the most in-need households receive support, rather than targeting the entire population group with limited resources available. The new targeting strategy is envisioned to be more efficient, but households in relatively good food security conditions risk being pushed into worse phases of food insecurity as most of the population relies on HFA. IDPs and returnees from Sudan who are not receiving humanitarian food assistance could face more severe food security conditions due to limited income opportunities and high food prices. This highlights the critical importance of continued humanitarian assistance to mitigate the deteriorating food security situation.

Additionally, the situation could be further exacerbated by anticipated flooding, which is anticipated to peak in October 2024, and is predicted to be equal to or greater than the 2021 flooding according to the South Sudan government and UN agencies[14]. Given that Rubkona County is particularly vulnerable to worsening food insecurity as much of the water from the previous flooding has not receded. In August 2024, the South Sudan Minister of Water Resources and Irrigation announced that the Ugandan government was releasing 2,400 cubic metres of water per second into the River Nile due to elevated water levels in Lake Victoria[15].

Water, Sanitation, and Hygiene

Reported sanitation practices varied greatly across the 3 strata. In Rotriak, an alarming 93% of households reported practicing open defecation, while the large majority of households in the Bentiu IDP camp (93%) and Bentiu town IDP sites (88%) reported using improved sanitation facilities, although the conditions around these facilities were extremely poor. In Rotriak, FGD and KI participants reported that no WASH partners have constructed any latrines recently. The previous ones are either full or submerged by flood water, and participants also mentioned that they don't have the financial means to construct new latrines. In the Bentiu IDP camp, FGD and KI participants reported that most latrines were full and lacked consistent desludging. FGD and KI participants further stressed that when it rains, faeces and water from the latrines are washed into the communities and mixed with drainage water. This contaminated water, along with surface water from floods, was often used by households for washing clothes. Furthermore, children were reported playing in the contaminated water, posing a high risk of infection and disease outbreaks.

Implementing partners attributed the deteriorating WASH conditions in the camps to a funding shortfall. Most of the local cleaners in the Bentiu IDP camp were reportedly laid off, which exacerbated the poor sanitation conditions. One partner reportedly wanted to construct new latrines using local

[14] WFP South Sudan – Seasonal Monitor, May 2024
[15] South Sudan: Ministry of Water Resource and Irrigation-daily water level updates.

materials, but the community were hesitant, believing these materials would not last long and would be vulnerable to fire in case of an outbreak. As discussions with community leadership continued, few functioning latrines remained, with no new construction underway at the time of data collection. **If the discussions are prolonged and consistent desludging does not occur, combined with the rain, the WASH situation will deteriorate further, posing serious health risks.**

Hygiene practices were also severely compromised. Across the assessed locations, an overall 89.8% of IDP households reported having no access to soap, significantly hampering efforts to maintain cleanliness and prevent disease transmission. While some participants reported receiving soap during monthly food distributions, the amount was insufficient, with one bar of soap divided among five people, lasting less than a week. Other participants quoted financial constraints as a barrier to maintaining cleanliness. In addition, 83% of households reported using untreated water for drinking and cooking. Given the high vulnerability among the IDPs in the event of disease outbreaks, the situation would be unprecedented.

Table 8 - Results of Water, Sanitation, and Hygiene

Household level WASH data				
Main source of drinking water	**Bentiu town sites (n=110)**	**Bentiu IDP Camp (n=107)**	**Rotriak (n=105)**	**Overall (n=323)**
Public tap	80%	100%	98%	93%
Borehole	27%	0%	0%	7%
Surface water	0%	0%	2%	1%
Main water treatment methods				
Boil water	7%	1%	1%	3%
Chlorine tablet	1%	29%	11%	14%
No treatment	91%	70%	88%	83%
Households with access to functioning latrines				
Pit latrine without slab/open pit	37%	35%	3%	25%
Pit Latrine with slab	51%	59%	4%	38%
Open defecation	12%	7%	93%	37%
Households with access to soap				
No soap in the house	93%	82%	94%	90%

Health

Table 9 - Results of Health (Core)

Individual-level data collection				
Individuals within households who reported health care needs during the two weeks prior to data collection	**Bentiu town sites (n=738)**	**Bentiu IDP camp (n=787)**	**Rotriak (n=679)**	**Overall (n=2204)**
Overall	43% (n=317)	40%(n=315)	39% (n=263)	41% (n=904)
Female	46% (n=188)	39% (n=173)	43% (n=160)	42% (n=514)
Male	40% (n=132)	42% (n=144)	33% (n=102)	39% (n=382)
Individuals needed to access health care in the last two weeks by age group	**(n=202)**	**(n= 182)**	**(n= 164)**	**(n= 548)**
Children aged 0-2 years	54% (n=58)	70% (n=67)	54% (n=47)	59% (n=172)
Children aged 3-5 years	57% (n=54)	48% (n=41)	40% (n=31)	44% (n=113)
Main symptoms reported in the past 2 weeks	**(n= 318)**	**(n= 317)**	**(n= 263)**	**(n= 898)**
Fever	73% (n=232)	63% (n=200)	69% (n=181)	68% (n=611)
Cough	27% (n=86)	30% (n=95)	31% (n=82)	29% (n=260)
Diarrhoea	22% (n=70)	27% (n=86)	23% (n=60)	24% (n=216)
Individuals reporting unmet healthcare needs, by % of individuals with a health problem in the two weeks prior to data collection	**(n= 318)**	**(n=317)**	**(n=263)**	**(n= 898)**
Overall	14% (n=45)	10% (n=32)	17% (n=45)	13% (n=117)
Female	14% (n=26)	10% (n=17)	19% (n=30)	14% (n=73)
Male	13% (n=17)	9% (n=13)	15% (n=15)	12% (n=46)
Children aged 0-2 years	9% (n=5)	9% (n=6)	15% (n=7)	11% (n=19)
Children aged 3-5 years	13% (n=5)	12% (n=5)	16% (n=5)	13% (n=15)
Household-level data collection				
Main barriers to accessing healthcare	**Bentiu town IDP sites (n=111)**	**Bentiu IDP Camp (n=107)**	**Rotriak (n=105)**	**Overall (n=323)**
Long waiting time for the services	69% (n=77)	54% (n=58)	61% (n=64)	62% (n=200)
Could not afford the cost of medication (price increased)	50% (n=56)	37% (n=40)	39% (n=41)	42% (n=136)
Specific service sought unavailable	25% (n=28)	17% (n=18)	28% (n=29)	23% (n=74)

The survey findings revealed that a significant number of households have members who experienced at least one episode of illness within the two weeks prior to data collection (41%), with fever (68%), cough (29%), diarrhoea (24%), and eye infection (14%), being the most common symptoms. Among individuals with health symptoms, 13% reported having unmet healthcare needs. The ongoing rainy season, coupled with the congested living conditions in the camps, heightens risk of disease outbreaks such as cholera and acute watery diarrhoea (AWD). This risk is exacerbated by observations of children playing in areas contaminated with water mixed with faeces in the camps. Since December of 2018, both the Ministry of Health and WHO have confirmed a Hepatitis E outbreak in Rubkona, with 5,640 cumulative cases to date recorded as of July 4th, 2024. Despite an existing outbreak, according to health partners, a rampant increase in AWD and Hepatitis E are still observed due to poor sanitation and lack of clean water.

Additionally, health partners reported an increase in infectious diseases within the camps like HIV (human immunodeficiency virus) and Tuberculosis (TB) in Rubkona County compared to the same period last year. This was likely due to the displacement of IDPs and returnees who settled in highly concentrated camps across the county. The practice of polygamy and lack of awareness about condom

use among youths could have accelerated the spread. From a cultural perspective, asking someone to use condoms is perceived as an insult to the woman.

On the household level, access to healthcare remains a critical issue. Households reported long waiting times for the service (62%), increased medication prices (42%), and the unavailability of specific services (23%) as the main barriers. In Rotriak, FGD and KI participants reported a complete stockout of medications in all health facilities, yet the cost of purchasing medicine in private clinics and pharmacies was extremely high. This shortage of drugs is particularly dire given the rainy season's spike in malaria cases, for which antimalarial drugs are desperately needed but remained unavailable. The nearest well-functioning health facility for those in Rotriak is now in Bentiu Hospital or the MSF facility in Rubkona, near the Bentiu IDP camp, which is 40 to 45 kilometres away, and according to health KIs, by the time they receive referred patients from Rotriak, the patient's health conditions are almost always extremely critical/near death. These patients often have to travel on foot unless they receive transportation support from the oil company ambulance.

Low vaccination coverage across the assessed locations was noted. Households were asked if they received cholera vaccination for all members in the family; those with children under five were also asked about their children's measle vaccination status as well as vitamin A supplementation. with 61% of households reporting not having received the oral cholera vaccination. Although over half of the assessed households reported that their children received measles vaccinations (77%) and vitamin A supplements (69%), these figures remain below the required coverage thresholds of 95% for measles and 80% for vitamin A. Health partners attributed low coverage of Expanded Programme on Immunization (EPI) services and immunisation primarily to a lack of cold chain services. For instance, in hard-to-reach areas like Rotriak, where access is difficult during the rainy season and a cold chain is lacking, many children were missing immunisations at the time of data collection. The low coverage in these high-risk areas is concerning, as it increases the population's susceptibility to disease outbreaks.

Table 10 - Results of Health (Supplemental)

Individual-level data collection				
Children 6-59 months who received vitamin A supplementation during the six months prior to data collection	**Bentiu town sites (n=161)**	**Bentiu IDP camp (n=135)**	**Rotriak (n=117)**	**Overall (n=413)**
Overall	69% (n=111)	76% (n=103)	61% (n=71)	69% (n=285)
Female	70% (n=53)	75% (n=49)	54% (n=31)	67% (n=133)
Male	68% (n=58)	77% (n=54)	67% (n=40)	71% (n=153)
Children aged 0-2 years	69% (n=167)	80% (n=108)	57% (n=40)	69% (n=167)
Children aged 3-5 years	69% (n=119)	73% (n=99)	66% (n=31)	70% (n=120)
Children 9-59 months who received measles vaccination	**(n=147)**	**(n=128)**	**(n=108)**	**(n=383)**
Overall	76% (n=117)	80% (n=102)	76% (n=82)	79% (n=303)
Female	77% (n=55)	80% (n=50)	67% (n=34)	74% (n=136)
Male	75% (n=12)	80% (n=53)	74% (n=42)	81% (n=161)
Children aged 0-2 years	74% (n=61)	90% (n=62)	64% (n=39)	77% (n=163)
Children aged 3-5 years	78% (n=51)	86% (n=51)	68% (n=32)	78% (n=133)
Participants having received oral cholera vaccination	**(n= (672)**	**(n=719)**	**(n=625)**	**(n=2016)**
Overall	40% (n=269)	41% (n=295)	34% (n=213)	29% (n=585)
Female	41% (n=157)	41% (n=170)	34% (n=117)	30% (n=342)
Male	39% (n=113)	41% (n=125)	34% (n=96)	28% (n=246)
Children aged 0-2 years	52% (n=22)	72% (n=20)	27% (n=9)	52% (n=54)
Children aged 3-5 years	50% (n=47)	62% (n=53)	40% (n=31)	51% (n=131)
Households having access to healthcare within one hour by their normal means of transportation	**(n=111)**	**(n=107)**	**(n=105)**	**(n=323)**
Yes	72% (n=80)	83 % (n=89)	56% (n=59)	71% (n=229)

Shelter

Table 11 - Results of Shelter

Household-level data collection				
Types of shelter	**Bentiu town sites (n=111)**	**Bentiu IDP camp (n=107)**	**Rotriak (n=105)**	**Overall (n=323)**
Rakooba (Rectangular shaped grass roof house)	98%	100%	84%	94%
Makeshift shelter	1%	0%	8%	3%
Unfinished building	0%	0%	9%	3%
Shelter issues				
Leaks/Flooding during rain	57%	23%	57%	57%
Damage to walls	51%	35%	54%	54%
Damage to windows	27%	21%	45%	45%
Major damage to the roof	57%	37%	61%	61%

According to the household survey results, 55% of households reported issues with cooking in their living spaces, mainly due to insufficient space (73%), a lack of essential household items for cooking such as utensils (72%), and inadequate space for cooking during rain (69%). In the Bentiu IDP camp, participants reported that most of the shelters were damaged and leaking, primarily due to a lack of plastic sheets. They also mentioned that the impact of floodwater from the 2021 flooding has restricted access to building materials.

Overcrowding was also reported as an issue in the camps, associated with an influx of IDPs in 2021 and returnees who arrived from Sudan since the onset of the conflict in April 2023, particularly in Bentiu IDP camp. Discussions revealed that some households were sharing accommodation with 2 to 3 other households, which compromised privacy and safety. Overcrowding may also increase the risks of fire hazards. In the Bentiu IDP camp, community leaders mentioned that some households had no choice but to settle in the WASH corridors due to a lack of space.

DISCUSSION

The overall conditions at the assessed IDP sites point to a severe public health situation, as indicated by the numerous severity indicators detailed in the table below.

Large food consumption gaps were reported among the assessed population (67% of households with a Borderline or Poor FCS) with over half of the population relying on humanitarian food assistance as their main source of food. FGD and KII participants reported that sharing food assistance was very common, making the assistance insufficient to sustain a household. Rotriak was found to have the highest share of households experiencing severe and very severe hunger (50%) compared to households in Bentiu IDP camp (26%) and Bentiu town IDP sites (28%). This may be partly explained by the low humanitarian food assistance coverage in Rotriak, with only 59% of households receiving assistances compared to in Bentiu IDP camp (95%) and Bentiu town IDP sites (89%). Therefore, the food security situation is indicative of IPC AFI Phase 4 (emergency) with some population possibly in Phase 5 (catastrophe).

Poor WASH conditions in IDP camps were found to be widespread, with many using unimproved sanitation facilities. Open defecation was highly reported, particularly in Rotriak, and poor sanitation was noted in the Bentiu IDP camp and Bentiu town. This poses high infection risks, especially for children, given the rainy season and anticipated flooding from September to December 2024. Additionally, the lack of soap increases the potential for disease outbreaks.

Health outcomes across the assessed IDP camps were very severe, particularly in Rotriak. This situation poses serious risks to the health of the population in this area. Bentiu IDP camp, with its history of high disease burdens such as acute watery diarrhea (AWD) and hepatitis E, faces further increased risks of an outbreak due to the rainy season, poor sanitation, and congested living conditions. Vaccination coverage remains critically low for cholera and measles, and vitamin A distribution coverage is also below the recommended threshold. These factors collectively pose serious health risks.

Table 12 - Comparison between IPHRA Core Indicator Thresholds

Category	Domain	Evidence	Standard (If applicable)	Severity			
				Overall	Bentiu IDP camp	Rotriak	Bentiu town IDP sites
Health Outcomes	Mortality	**Not available**	1 death per 10,000 per day 2 under-5 deaths per 10,000 per day				
	Malnutrition	**Not available**	>10% GAM by MUAC				
	Morbidity	40.7% of individuals with healthcare needs in the 2 weeks prior to data collection (40% Bentiu IDP camp, 39% Rotriak and 43% Bentiu town IDP sites) Overall, 51% of children under 5 years old with health needs (41% Bentiu IDP camp, 48% Bentiu town IDP sites and 53% Rotriak)	>20% of people with any health care need in 2 weeks	**High**	**High**	**High**	**High**
Immediate Drivers	Water Consumption	All households had access to improved water sources, however, the majority were not treating water (83%).	< 10 CFU/100ml at point of delivery (unchlorinated water)	**Low**	**Low**	**Low**	**Low**

Direct Contributing Factors	Household Food Consumption	Food security outcomes indicative of an AFI IPC Phase 4 Emergency classification with some population experiencing IPC 5 Overall, 32% of households Severe and Very Severe Household Hunger Scale 27% Bentiu IDP camp, 50% Rotriak and 28% Bentiu town IDP sites) In total, 38% of households reported a "poor" food consumption score (11% Bentiu IDP camp, 37% Rotriak and 34% Bentiu town IDP sites)	20% Severe and Very Severe for IPC Phase 5	**High**	**High**	**High**	**High**
	Household Water Security	Overall, of the 96% of HHs with containers, the median number of water containers was 2, meaning the minimal standard of at least 2 containers per household was met.	At least 2 water containers per household for collection and storage	**Low**	**Low**	**Low**	**Low**
	HH Income and Coping	55% of households relied on emergency livelihood coping strategies, and high reliance on limited humanitarian assistance. (50% Bentiu IDP camp, 55% Rotriak and 59% Bentiu town IDP sites)	Most households are relying on humanitarian assistance, begging, or other severe coping strategies (>50%) Exhausted survival income sources or mainly rely on aid	**High**	**High**	**High**	**High**
	Living Conditions	52% of households (37% in Bentiu IDP camp, 61% in Rotriak and 37% in Bentiu town IDP sites) report major damage to shelter	Percentage of shelters and/or settlement sites that are located in areas with no or minimal known natural or	**High**	**Medium**	**High**	**Medium**

			man-made threats, risks and hazards Minimum 3.5 square metres of living space per person, excluding cooking space, bathing area and sanitation facility 4.5–5.5 square metres of living space per person in cold climates or urban settings where internal cooking space and bathing and/or sanitation facilities are included				
Indirect Contributing Factors	Natural and built environment (Sanitation)	Overall, 37% of households reported open defecation (6.5% Bentiu IDP camp, 93% Rotriak and 12% Bentiu town IDP sites) During discussions and observations, most latrines were full and lacking desludging Poor sanitation and hygiene with no proper disposal, particular in the Bentiu IDP camp.	20 people per latrine (medium-term goal); 50 people per latrine (emergency); No human faeces in the living environment . Latrines are at least 30m from water sources; Latrines are at most 50m from shelters;	**High**	**High**	**High**	**High**

	Market Functionality	Prices of essential food commodities were very high	Availability of critical items Financial accessibility of critical items Damage to market infrastructure or functionality	**Medium**	**Medium**	**Medium**	**Medium**
	WASH Service Adequacy	Some (62%) HHs can collect water within 30 minutes	Some households can fetch water within 30 minutes (50-80%)	**Medium**	**Medium**	**Medium**	**Medium**
	Health Service Adequacy	71% of households can access functional health facilities (83% Bentiu IDP camp, 56% Rotriak and 70% Bentiu town IDP sites) within one hour 77% of children aged 9-59 months received measles vaccination (88% Bentiu IDP camp, 66% Rotriak and 76% Bentiu town IDP sites) 69% of children aged 6-59 months received vitamin A supp (76% Bentiu IDP camp, 61% Rotriak and 69% Bentiu town IDP sites)	Most households cannot access nearest functional health facility within 1 hour (<50%) Less than 50% of children 6-59 months received Vitamin A supp in the last 6 months, and less than 50% 9-59 months received measles vaccination	**Medium**	**Medium**	**Medium**	**Medium**
	Nutrition Service Adequacy	Lack of stabilisation centre accessible to the population.	**CMAM Program Coverage:** >50% in rural areas >70% in urban areas				

			>90% in formal camps (If no partner coverage, assuming 0%)	[redacted]
Assessing Overall Severity for Public Health Classification – base this off the public health outcome indicators (morbidity, malnutrition, mortality) **High** – Indicates the population is currently experiencing emergency levels, or risk of emergency levels, of public health outcomes (morbidity, malnutrition, or mortality) **Medium** – Elevated but not necessarily emergency levels of public health outcomes **Low** – Non-emergency or elevated levels of public health outcomes.		**High-severity public health situation – based on very high severity of morbidity**	[redacted]	

CONCLUSION AND RECOMMENDATIONS

The assessed IDP camps exhibited significant public health challenges, and the contributing drivers were explored, as detailed in the Integrated Public Health Analysis table above. The highest priority domains for these camps include morbidity, sanitation, household food consumption, household income, and living conditions. Cases of infectious diseases are on the rise and the risk of outbreaks is alarmingly high, particularly in the Bentiu IDP camp, which has previously experienced outbreaks of diseases like cholera and hepatitis E. Poor WASH conditions could further accelerate these outbreaks. In the event of a disease outbreak, the current high severity of the public health situation among the population living in the IDP sites indicates that, without a scale-up of public health interventions and multi-sectoral collaboration, the population is at higher risk of disease and severe/adverse health outcomes if left unattended.

With the anticipated floods between September and December 2024, the continuous arrival of returnees from Sudan, and deteriorating macroeconomic conditions, food insecurity will continue to worsen. Recommended public health priorities are outlined in the table below as an initial step toward mitigating further deterioration of the public health situation over the next three months. Rubkona County is classified in IPC AFI Phase 4 "Emergency" between April and July 2024, and the FEWSNET July food security outlook update indicated that some displaced populations in Rubkona could be experiencing Catastrophe conditions (IPC Phase 5). Therefore, the findings of this rapid assessment validate the severity and underscore the need to prioritize humanitarian response in the IDP population to avert further loss of life.

Table 13 - Recommendations

Risk of Excess Mortality Dimension	Severity	Period	Recommendation
Household Food Consumption	High	Short-term	Improve coverage of FSL interventions to immediately address urgent food consumption gaps especially giving food to the returnee HHs to reduce sharing.
Morbidity	High	Short-term	Noting 39% of individuals in the households assessed reported a healthcare need in the two weeks prior to data collection, with 13% of these indicating their needs were unmet, recommend improving health coverage to far IDP locations.
Living Conditions	High	Short-term	Identifying that shelter is the second highest reported priority need and survey findings indicated major roof damage (52%), recommended to prioritize shelter materials.
Health Service Adequacy	High	Short-term	Low vaccination coverage across the assessed locations, with 60.8% of individuals reporting not receiving the oral cholera vaccination. Although over half of the assessed households reported receiving measles (77%) and vitamin A (69%) vaccinations, these figures remain below the required coverage thresholds of 95% for measles and 80% for vitamin A, recommended improving the coverage of preventative child health services across the assessed IDP camps and beyond
Sanitation	High	Short-term	Noting that 37% of households overall were practicing open defecation mostly in Rotriak (93%), 90% of households lacked soap and lack of desludging of latrines in the Bentiu IDP camp, recommend sanitation interventions be implemented in the assessed IDPs, especially consistent desludging in the Bentiu IDP camp.
*Recommendations developed in consultation with implementing partners			

ANNEXES

References

1 CCCM monthly IDP updates: South Sudan
2 UN-IOM and UNHCR. Population Movement from Sudan to South Sudan Dashboard

3 Rakooba: refers to a traditional shelter or hut. These shelters are typically made from locally available materials such as grass, sticks, and mud.
4 ibid
5 Population increase
6 UN flooding
7 UN-IOM and UNHCR. "Population Movement from Sudan to South Sudan." Dashboard.
8 MoH-WHO: Weekly Integrated Disease Surveillance and Response (IDSR) Epidemiological Bulletin. South Sudan
9 UN-IOM: Implementing flood mitigation measures in South Sudan's Rubkona County, South Sudan
10 IPC. "Integrated Food Security Phase Classification (IPC) for Acute Food Insecurity and Acute Malnutrition. November 2023 to July 2024." November 2023.
11 REACH "South Sudan cross-border displacement: Rapid food security assessment in areas of return - Rubkona County".
12 REACH MSSMEB: An indicator that represents the minimum cost of the food items required to support a six-person household for one month.
13 WFP-VAM: Food Consumption Score & Food Consumption Score Nutritional Analysis.
14 WFP South Sudan – Seasonal Monitor, May 2024
15 South Sudan: Ministry of Water Resource and Irrigation-daily water level updates.

Analysis

The household data were cleaned and analysed using IPHRA R scripts, which were built by IMPACT HQ. Various statistics have been computed on the data, including percentages, means, and medians, among others. The analysed data were presented in both tabular and Excel files. For FGDs and KIIs, including observation, the analysis was conducted using the REACH Data Saturation Analysis Grid (DSAG). The quantitative data were cleaned and analysed two days after data collection, and preliminary findings were drafted and shared with key partners, including donors, within seven days after the last day of data collection.

Limitations

The IPHRA methodology is intended to be a lightweight method to assess the most key public health outcomes and service coverage indicators compared to other more robust methods. Given the suggested IPHRA methods, there are several key limitations:

- **Not a causal analysis** – The IPHRA method intends to understand the severity of public health needs and service gaps, however given this focus it may not fully explain the reasons or causes of the results. Some analysis and triangulation with qualitative components may give an indication, but it will likely be limited.
- **Not-generalizable** – Cluster sampling approaches are not recommended for IPHRA assessments. The allowance of purposive sampling means that results (although representative per strata) shouldn't be generalized to a wider population beyond the sites and facilities assessed.
- **Likely not reaching saturation** – For the qualitative components, sample sizes are likely not adequate to reach a full saturation of responses in the population. The intent of these is to provide some light-touch information to triangulate with household survey results.

For more information on the research design, refer to the Terms of Reference.