

Kurwai Rapid Assessment Brief

Kurwai Payam, Canal/Pigi County, Jonglei State, South Sudan, March 2019



Introduction

As of January 2019, Canal/Pigi county has been classified by the Integrated Food Security Phase Classification (IPC) to be experiencing level 4 'acute' food insecurity. In total, 92,000 people are estimated to be in need of food assistance with 31,000 people experiencing IPC 3 'crisis', 46,000 in IPC 4 'emergency', and 10,000 in IPC 5 'catastrophe' conditions. Information from the Food Security and Nutrition Monitoring System (FSNMS) Round 23, conducted in November/December 2018, indicated poor food consumption patterns and high levels of morbidity in November/December 2018. While some limited evidence was available on the humanitarian situation in Canal/Pigi as a whole, there was a poorer understanding of the scope and severity of multi-sectoral needs in Kurwai payam, an important population center within the county.

At the request of the Needs Assessment Working Group (NAWG) within OCHA, REACH aimed to fill this information gap by conducting a multi-sectoral rapid needs assessment from 13-27 March in Kurwai payam using a mixed methods approach. Six villages were visited in total, with two sites being purposefully selected (Padoum and Kolonyang) and four sites being randomly selected using probability proportional to size sampling (Wunlueth, Koldhur, Amanyang, Kurchok)¹. In total, 292 households were surveyed, 8 focus group discussions (FGDs) with community members, and 10 key informants interviews (KIIs) with community leaders and NGO workers were conducted across all sites. Observations by team leaders were also noted in the assessment. Additionally, 363 children aged 6-59 months and 180 pregnant and lactating women (PLW) were screened for malnutrition by mid-upper arm circumference (MUAC)². Households were exhaustively visited within each site, and all children 6-59 months and PLW present within those households were screened. The standardized Household Hunger Score (HHS)³ questions were applied at each household to assess the severity of experienced hunger. Findings at the household level can be considered statistically representative of Kurwai payam with a 95% confidence level with 10% margin of error.

Population and Displacement Profile

Kurwai payam is located in the north-west corner of Canal/Pigi county in the former Jonglei state, bordered to the north by Panyikang county, to the west by Fangak county and to the east

¹Probability Proportional to Size (PPS) Sampling is where a cluster/data collection site is randomly sampled from a list, where the probability of selection is related to the population size. The purposefully selected sites were larger, more populated sites of interest while the four random ones were rural, sparsely populated villages.

²Mid-upper arm circumference (MUAC) - arm measurement typically used to screen for acute malnutrition

³Household Hunger scores (HHS) is an indicator showing the self-reported experienced hunger of a household over the last 30 days, calculated on a scale from 0 to 6. This is calculated from a standardized set of six questions. These are categorized as 'none' (0), 'little' (1), 'moderate' (2-3), 'severe' (4), and 'very severe' (5-6). More details can be found [here](#).

⁴Headcount was done by registration at a static site.

⁵Kurwai is scheduled to receive food distributions every three months, and is currently undergoing a headcount prior to the next planned distribution.

⁶A child is classified as having severe acute malnutrition (SAM) when their MUAC is less than 11.5cm, and moderate acute malnutrition (MAM) when greater than or equal to 11.5cm and less than 12.5cm. For PLWs, SAM was classified as having a MUAC of less than 21cm, and MAM as less than 23cm.

Key Findings

- **Seasonal water shortage and movement** - Water shortages were the main pull factor for movement of host community households within the payam to locations with access to water such as Padoum, Kolonyang, and Patai, as reported by FGD participants. According to FGD and KIIs, access to water is expected to deteriorate continuing into April, likely driving additional movements within the payam. Populations in Alam payam, south of Kurwai payam, have already moved to Koliet and other locations for water access, as reported by KIIs.
- **Vulnerable groups** - Since September, returnees throughout Kurwai payam, and IDPs who have come to Kurwai, reportedly did not have access to the last food distribution in January 2019, according to FGD participants and KIIs. Additionally, KIIs reported populations in Koliet (main town in Alam payam) and Alam payam in general, have no access to humanitarian services. Koliet is reportedly a destination site for populations moving due to water-shortage, and waypoint for returnees coming from Malakal/Khorfulus.
- **Lack of access to improved water** - None of the assessed households reported access to improved water sources, instead households relied mainly on swamp (78%) or river water (19%). Seasonal dry spells result in limited water being shared for drinking, bathing, and animal usage.
- **High household morbidity in the two weeks prior to data collection** - Self-reported morbidity levels were extremely high, with nearly all households (97%) reporting an adult or child was sick in the two weeks prior to data collection. This is likely related to water being contaminated and increasingly scarce, restricted food consumption due to food insecurity, and difficulty accessing health care.
- **Humanitarian assistance is main source of food** - Humanitarian assistance was the main source of food in Kurwai, with FGD participants reporting few households having harvests from the previous season, and no staple foods available in the local markets⁴.
- **High levels of perceived hunger** - More than one-fifth (21%) of assessed households were found to have a Household Hunger Scale (HHS)³ of four or greater, indicating 'severe' and 'very severe' conditions (indicative of IPC Phase 4 and 5).
- **Recurrent shocks have degraded livelihoods** - FGD participants reported that their livelihoods have been limited due to recurrent instances of flooding and bird infestations since 2017, resulting in reduced crop yields. Additionally, participants reported cattle disease outbreaks since May 2018 have reportedly killed as many as half of the herds in the area. Lack of tools, seeds and veterinary services are other reported barriers to re-establishing traditional livelihoods were also reported.
- **High levels of acute malnutrition⁶** - A proxy Global Acute Malnutrition (proxy GAM) by MUAC was observed of 9.7%, with a proxy prevalence of severe acute malnutrition (SAM) of 3.1%. This indicates that the population is experiencing 'serious' conditions according to IPC acute malnutrition classification. Nearly one-third of PLW were also acutely malnourished (31.7%).

and south by Atar and Alam payams. Padoum is the main payam headquarters, often directly referred to as “Kurwai”. Historically, Kurwai has been a destination for internally displaced people (IDPs) fleeing Atar, Malakal and other locations during the heightened insecurity since 2013.

Kurwai payam is organized into several smaller regions or bomas including Kurwai, Pachot, Kolapach and Alam. Exact population figures are unclear for the payam, however the Integrated Rapid Response Mechanism (IRRM)³ reported a headcount in August 2018 of 10,912 people. The context is relatively stable, though KIs reported instances of ongoing inter-clan fighting, and some wooded areas reportedly still have UXOs from previous periods of insecurity.

FGD participants and KIs have reported that both IDPs and returnees migrated into Kurwai payam since the last WFP headcount and missed the last general food distribution (GFD). FGD participants in Kurwai town reported some IDP populations have faced secondary displacements from Malakal and Khorfulus, reporting that hunger was a main push factor in their decision to come to Kurwai within the six months prior to data collection. Returnees reportedly have been returning from locations including Malakal, Khorfulus, Bentiu, Juba, Ayod, Uganda, Sudan, amongst others within the six months prior to data collection. Returnee FGD participants mostly reported the desire to return to their area of origin and to reunite with family and relatives as the main pull factor. Map 1 below shows population

movement routes used by both IDPs and returnees over the six months prior to data collection.

According to KII and FGD participants, seasonal water shortages have caused whole communities to migrate to areas within the payam with better water access, a challenge reportedly faced every year from February to April. As a result whole households have moved to villages such as Kurwai, Kolonyang, Koliet, Nyibok and Patai which are anticipated to have access to water until the rainy season in May or June. Water shortage-related movements have been observed throughout the area, but also largely out of Alam payam where water sources had reportedly already dried up in March. Koliet village in particular is a destination site of concern given the lack of any services, as reported by KIs. Map 1 below depicts movement away from areas lacking water to locations with water access such as Diel, Kolonyang, Kurwai, and Koliet. It was anticipated by KIs at the time of data collection that water would become increasingly scarce in Padoum and other areas in the payam during the month of April, which would continue to drive population movements within the payam.

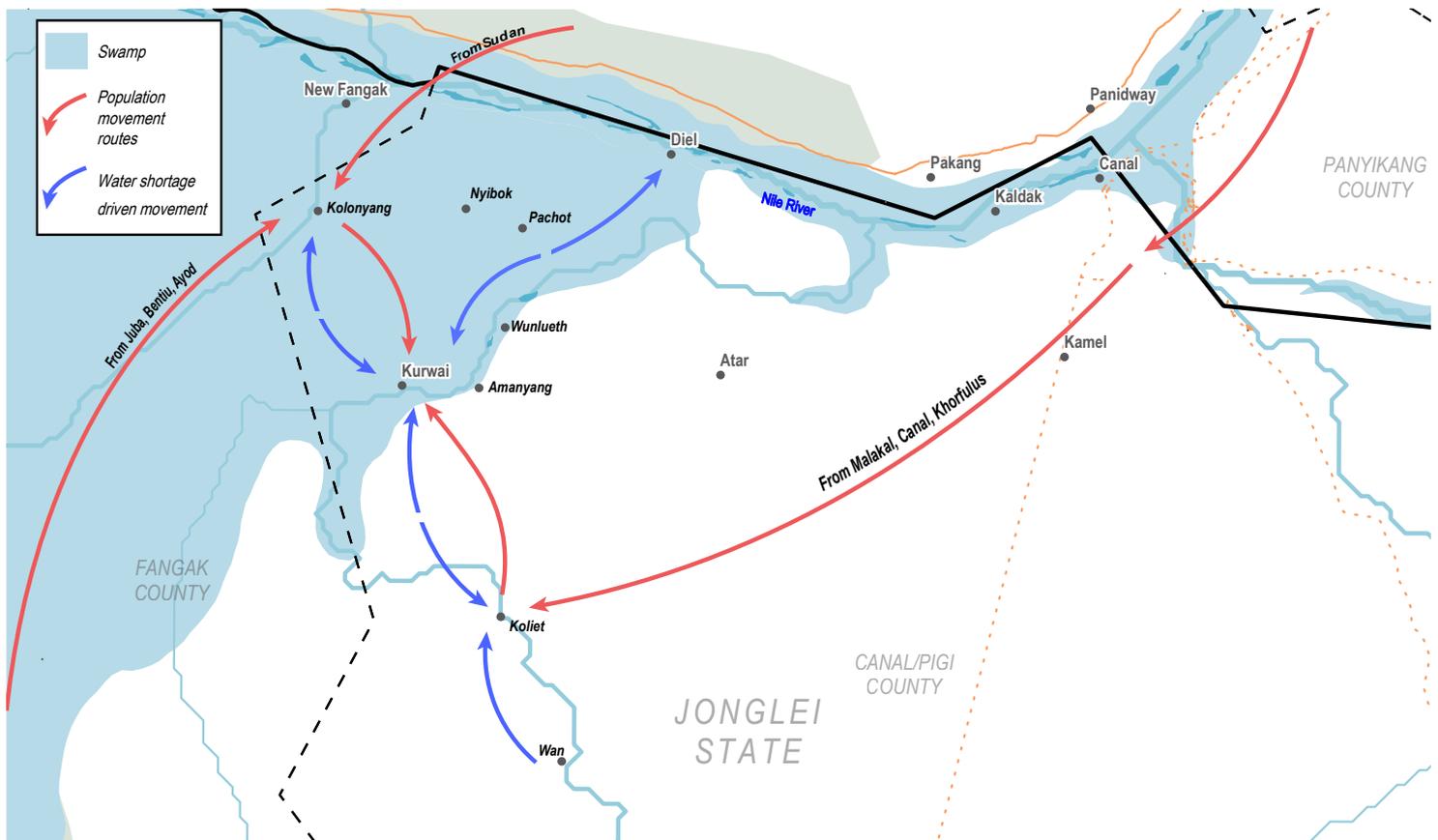
Contributing Factors, Shocks and Outcomes

Food Security and Livelihoods

According to KIs and FGD participants, populations in Kurwai payam have been largely dependent on the WFP food distribution as their main food source since 2017, when a combination of bird infestations and flooding caused an intense period of hunger. While other food sources existed including household’s own crop

³ The IRRM is a WFP response mechanism designed to assess and rapid respond to changing needs on the ground and address humanitarian coverage gaps.

Map 1: Displacement routes, Kurwai payam



production and fishing, these sources were limited and the remaining food from all sources was reportedly expected to last only until the end of April by at the time of data collection. The last GFD occurred in January 2019, however at the time of the assessment access to the GFD was minimal for IDP and refugee returnees who had arrived after the last headcount in August 2018 and were unable to receive assistance. Instead they are reportedly relying on host communities, relatives and neighbours for support, which has reportedly strained relations.

FGDs with market vendors and direct observation by the assessment team showed that there was a lack of food available in the market, and the diversity and quantity of good was also limited in the two small, cash-based markets in Padoum and Kolonyang villages. Walwal (a sorghum based porridge) and some prepared food is available in the market from vendors willing to sell from their personal food stocks, however largely no staple foods were available for purchase. Market limitations also applied to non-food items (NFIs), as market vendors reported only clothes, soap and limited other items such as salt, sugar, fish, cooking oil and tea. Shelter and agricultural materials such as axes and plastic sheeting, were reportedly not available. Market vendor KIs reported that these items can be found in farther away markets such as Old Fangak and New Fangak towns, found in Fangak county, Jonglei state, which are only accessible by households trekking for a day or more.

According to market vendors KIs, there were two main barriers to trade. Firstly, transportation routes were limited, as there are no roads or other means of transporting greater quantities or varieties of items to Padoum village. Goods entered the market largely on foot from New Fangak or Old Fangak towns, or by boat to Kolonyang followed by transporting the goods on foot to Padoum village. In turn, many of these goods originated from Sudan, through Tonga town to New Fangak town. Secondly, restricted freedom of movement for traders up and down the river was also cited by market vendors KIs as a barrier, limiting traders ability to obtain goods. If security increases, KIs expected river trade to increase. Lastly, traders and FGD participants reported a lack of purchasing power of households in Kurwai constrained the ability of vendors to procure more expensive goods in the market, or even to sell basic goods such as charcoal, wild foods or other natural resources.

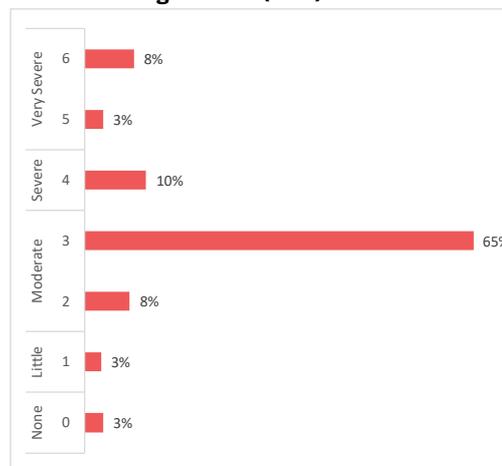
In the past two years, several recurrent shocks have occurred, negatively impacting livelihoods of the payam. Cultivation, livestock and fishing were the traditional livelihoods in Kurwai payam according to FGD participants. Maize and sorghum were the primary crops with planting season reportedly starting in May, and harvest being in August (maize) and September (sorghum). Other crops cultivated included sesame harvested in September, groundnuts and beans harvested in November and December. According to FGD/KIs, crop yields were far below average because of erratic rainfall, including flooding and dry spells, birds and early consumption of crops.

Livestock traditionally raised include cattle, chickens and goats. Primary cattle markets are located in New Fangak, Old Fangak and Malakal town. FGD participants reported that livestock disease

Table 1: Summary Population Demographics

	Number of Households, n (%)
Sites (N = 292)	
<i>Padoum</i>	121 (44%)
<i>Kolonyang</i>	71 (21%)
<i>Koldhur</i>	34 (14%)
<i>Wunlueth</i>	25 (8%)
<i>Kurchok</i>	12 (3%)
<i>Amanyang</i>	29 (11%)
Residency status (N = 292)	
<i>Host community</i>	153 (52%)
<i>IDP</i>	101 (35%)
<i>IDP Returnee</i>	31 (11%)
<i>Refugee Returnee</i>	7 (2%)
Average Household Size (N = 292)	7.8
Female headed household (N = 292)	187 (63%)

Figure 1: Household Hunger Scale (HHS)



has resulted in an increase in livestock mortality and decrease in milk production since May 2018, with reportedly as much as half of cattle herds having died. KIs and FGDs were not able to identify the exact disease, but raised concerns that the disease outbreak would continue into the rainy season in May/June.

Fishing was a typical livelihood in the area, however only people living in Kolonyang village reported fishing as a livelihood source year-round. Other locations located further inland reported fishing as a livelihood source only from from July to October. Additional activities such as selling charcoal, wild foods, or other natural resources were reported, however these activities were reportedly limited by a lack of tools needed to collect these things.

One-fifth of households (21%) were assessed as 'severe' or 'very severe' on the Household Hunger Scale (HHS). These high levels is

likely contributed to be the above mentioned factors of limited food availability due to lack of staple foods in the markets and loss of crops and cattle, as well as reliance on GFD as main food source which was nearly exhausted at the time of data collection.

FGD participants reported that borrowing food from relatives and neighbours who were registered for the last distribution, as well as relying on wild foods such as lalop fruit and leaves, lang, adok and waterlily were their main coping strategies. FGD participants described that while they traditionally used these coping strategies, they were relying on them more than normal for the time of year at the time of the assessment. Entering the rainy season (May/June), access to food was expected to deteriorate, with FGD participants likely to continue relying on wild foods.

Water, Sanitation and Hygiene

Lack of access to water, both in quantity and quality of sources, was cited by KIs and in several FGDs as the main issue of concern in Kurwai payam. However, some FGD participants emphasized that they expected this need to decline with the seasonal return of water in the rainy season. Shortage of water is a seasonal issue and during times of limited access to water, participants reported that some households migrate to areas with better access while some create hand-dug wells. According to households, swamp water is the main water source in Kurwai payam (78%), followed by river/streams (19%) and hand dug wells (3%), however FGD participants anticipated that this would shift in April as more swamps dry out. Communities shared the same water sources for drinking, bathing and animal use, as described by FGD participants. Access to river water was mainly in Kolonyang village, which is situated on the Nile and has year round access to water.

FGD participants reported that most people drink untreated water and treatment options were limited, with previous distributions of chlorination tablets by NGOs in the payam having been exhausted. Instead, FGD participants described mixing ash into water for minimal treatment of drinking water. Latrines were not available in most villages, with Kolonyang being the exception as an NGO constructed several single and double block latrines in February. Despite this, open defecation was reportedly still widely practiced throughout Kolonyang according to FGD participants. Overall, the water and sanitation needs in Kurwai Payam were reportedly quite severe, with the reliance on limited water sources and open defecation contributing to high levels of morbidity in the payam.

Health and Nutrition

Poor food security and reliance on very concentrated, contaminated water sources were likely drivers of high levels of morbidity in Kurwai payam. Nearly all households reported either a child or an

⁵ Data provided by Nile Hope.

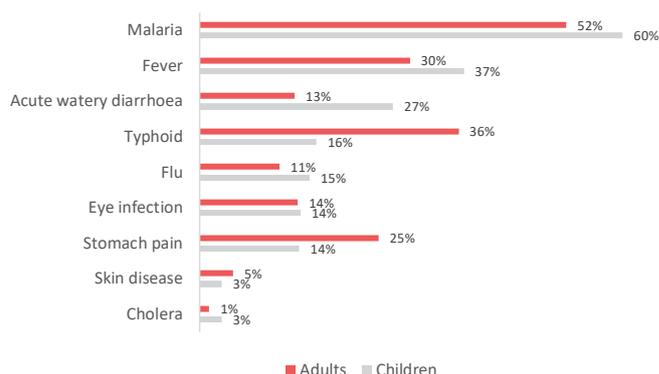
⁶ IPC Acute Malnutrition Classification by MUAC is based on the historical relationship of GAM by MUAC and GAM by weight-for-height measures, as GAM by weight-for-height is the preferred measure for classification. If GAM by MUAC is historically lower than weight-for-height, then the higher classification will be chosen. If GAM by MUAC is historically higher or the same as GAM by weight-for-height, then the lower classification will be chosen.

⁸ Helen Young and Susanne Jaspers. The meaning and measurement of acute malnutrition in emergencies. A primer for decision-makers. Humanitarian Practice Network (HPN). November 2006.

⁹ OTP sites are used to provide outpatient services for acutely malnourished children

¹⁰ SC are used to provide inpatient services for acutely malnourished children

Figure 2: Self-reported illness in household in two weeks prior to data collection, children and adults



adult was ill in the two weeks prior to data collection (97%). More than half of households reported both a child and adult had been sick in the two weeks prior to data collection (56%), while fewer reported only a child (25%) or an adult (16%). The most prevalent self-reported illnesses for children were malaria, fever, and acute watery diarrhoea, while for adults the most common were malaria, typhoid, fever, and stomach pain. For conditions such as typhoid and malaria, it is important to emphasize these were self-reported ailments and not clinically diagnosed. This is supported by high reported cases of malaria, and a generally increasing trend of acute watery diarrhoea cases from health program data for Kurwai from December 2018 to February 2019⁵.

A proxy GAM by MUAC of 9.7% was measured for children 6-59 months, with a proxy SAM of 3.1%. Other nutritionally vulnerable populations showed effects as well, as nearly a third of PLW were acutely malnourished by MUAC (30.1%). Given the past relationship⁶ between different measures of acute malnutrition in Canal/Pigi county, the proxy GAM for children 6-59 months likely indicates a possible 'serious' situation of acute malnutrition in Kurwai payam, as defined by IPC Acute Malnutrition Classification⁷. Additionally, the high rate of proxy SAM may suggest morbidity is a probable key driver for acute malnutrition, as the illnesses would cause rapid weight loss in a short period, driving malnourished children into a more severe categorization⁸.

Health and nutrition services were available in the payam through one primary health care center (PHCC), three primary health care units (PHCUs), five outpatient therapeutic feeding program sites (OTP)⁹ and one stabilization center (SC)¹⁰. The PHCC and SC were available in Padoum with minor inpatient services available, while the PHCU and OTP outreach services were located in different areas of the payam with OTPs in Pachot, Alam, Kolonyang, Diel, and Kurwai villages, and PHCU services located only in Patai,

⁷ IPC Acute Malnutrition Phase Classifications with proxy GAM by MUAC

Phase 1 (Acceptable) - GAM by MUAC <5%

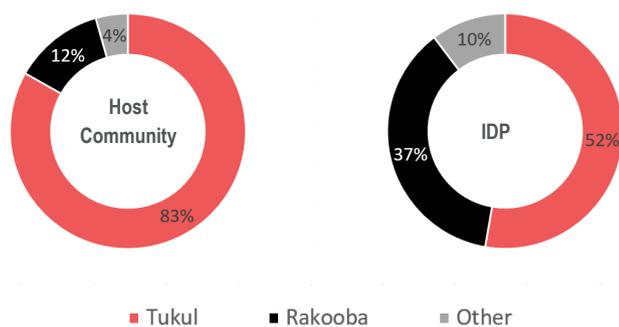
Phase 2 (Alert) - GAM by MUAC <5% and historical relationship is lower than GAM by weight-for-height; OR GAM by MUAC 5-9.9% and historical relationship is higher/same as GAM by weight-for-height

Phase 3 (Serious) - GAM by MUAC 5-9.9% and historical relationship is lower than GAM by weight-for-height; OR GAM by MUAC 10-14.9% and historical relationship is higher/same as GAM by weight-for-height

Phase 4 (Critical) - GAM by MUAC 10-14.9% and historical relationship is lower than GAM by weight-for-height; OR GAM by MUAC >=15% and historical relationship is higher/same as GAM by weight-for-height

Phase 5 (Extremely Critical) - GAM by MUAC >=15% and historical relationship is lower than GAM by weight-for-height;

Figure 3: Shelter type, by host community and IDP



Kolang and Diel. While health services were generally available in Kurwai payam, it was commonly cited as a perceived need due to distance, difficult terrain, and preference in the local community for certain types of treatment options which weren't always available or prescribed (such as injections). FGD participants noted that once the rainy season starts in June the swamps will become passable only by canoe. This is true for areas in Alam payam to the south of Kurwai payam, in particular Koliet (main town for Alam payam), which is more than a day's trek by foot and has no other services available. Referral to secondary services was reportedly extremely difficult and requires a day's trek by the patient to Old Fangak. Health seeking behaviours also contribute to poor service delivery as community preferences for treatment options are not always available, as reported by service providers KIs.

Shelter/NFI

Overall, the majority of households reported residing in tukuls (72%), with rakoobas as the second most common structure type (22%). A minority of households were observed staying living in the open (5%), or in communal structures (1%). With the lack of plastic sheeting available and lack of tools for tukul maintenance, KIs and FGD participants reported shelter won't be adequate to protect people from exposure during the coming rainy season.

There were noticeable shelter differences between groups in Kurwai Payam, with only about half of IDP households reportedly living in tukuls (52%) as compared to the host community (83%). The rest of IDP household were observed living in rakoobas, out in the open, or communal structures (47%), suggesting this group will be particularly vulnerable during the rainy season. These IDP households included those whose movements within the payam have been driven by water shortages. Nearly one-quarter of households were sharing shelter in Kurwai payam (23%), mostly IDPs or returnees staying with relatives or neighbours. While shelter materials for construction or maintenance of tukuls were generally available (wood, mud, grass), the availability of tools was reported as a key limiting factor by FGD participants.

Mosquito nets were the most commonly reported top NFI need due to health concerns by FGD participants. Lack of buckets and jerry cans was also reported as a challenge to accessing sufficient water, as the lack of containers limits the amount of water households can collect and store. Currently, most households were sharing NFIs,

tools for household work and shelter maintenance, and buckets/jerry cans for collecting water.

Education

Education provider KIs within the payam reported that basic primary education services were provided in Kurwai through UNICEF partners. There were ten schools active in the payam at the time of data collection, located in Padoum, Kurwai, Majoknyang, Nyibok, Longwundith, Nyijuur, Patai, Kolonyang, Wunlueth, and Pach villages. Access to education services has been negatively affected by recent local events, as insecurity reportedly forced the movement of one school from Nyinrieth to Longwundith for the safety of the teachers, and closing of the Majoknyang school due to water-shortage related movements of the community. Additionally, it was reported that rainy season would lead to further deterioration in access to education as the swamps cut off access to school locations. Aside from access to facilities, KIs and FGD participants reported a lack of trained teachers, children being kept home to help with chores, lack of classrooms in some locations (Kolonyang), and lack of textbooks or other school supplies as key challenges.

Conclusion

Seasonal challenges in water access for the population, limited food availability, and access to livelihoods and health services were all observed in Kurwai payam. Shocks related to cattle disease, bird infestation and flooding have made the population vulnerable and dependent on humanitarian food assistance as their primary food source. On top of this, an influx of people from locations outside of Kurwai payam to the area has put additional stress on host communities to share food, tools and other resources in an environment where access to resources is already limited. A combination of the poor environmental conditions and reduced consumption due to household food insecurity, likely has played a part in the high levels of morbidity and high levels acute malnutrition observed during this assessment. An upcoming new WFP food registration and distribution, as well as the expected start of the rainy season in May, will help alleviate some of these needs, however further support is still needed to strengthen people's ability to return to their traditional livelihoods and increase their resilience.

About REACH

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For more information, you can write to our in-country office: southsudan@reach-initiative.org or to our global office: geneva@reach-initiative.org.

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