Introduction
Cumulative years of conflict, associated displacement and heavy flooding during the third and fourth quarters of 2019 have resulted in high humanitarian needs in the Upper Nile State (UNS) of South Sudan. Information gaps on humanitarian needs in UNS exist due to different regional dynamics and access challenges throughout the state, resulting in barriers to humanitarian programming.

To inform humanitarian actors working outside formal settlement sites, REACH has conducted assessments of hard-to-reach areas in South Sudan since December 2015. Data is collected on a monthly basis through interviews with key informants (KIs) with knowledge of settlements and triangulated with focus group discussions (FGDs). This situation overview uses this data to analyse changes in observed humanitarian needs between September and December 2019 across UNS. Since coverage of Fashoda county in December did not surpass the minimum 5% of all known settlements, reported data for this county was collected in November unless otherwise specified. In this reporting period REACH covered all counties in Upper Nile with the exception of Longochuk and Maiwut.

Key Findings
- In Maban county, 85% of assessed settlements continued to report large-scale recent displacement in the last three months, due to floods. A sharp increase in displacement was reported in Panyiakang, with 100% of the assessed settlements reporting presence of newly arrived IDPs. Overall, there was an increase of settlements on the western bank reporting IDPs in quarter four.
- Despite ongoing harvests, food security and livelihoods (FSL) needs remained high in parts of UNS due to the impact of flooding, pests, disease outbreaks amongst livestock and increased market prices. Compared to September, the proportion of assessed settlements reporting adequate access to food across UNS (excluding Fashoda) remained stable at 57%. However, this proportion fell from 74% in September to 50% in December Malakal county.
- Protection concerns remained relatively low in most of UNS. However, in Nasir and Ulang the proportion of assessed settlements reporting that most people did not felt safe most of the time remained high at 69%.
- WASH and health needs remained high across UNS. Floods destroyed latrines and boreholes in Maban, returnees put pressure on strained WASH resources in Ballet and malaria remained the main health concern for 73% of assessed settlements in all counties (excluding Fashoda).
- Overall, 32% of assessed settlements across

1. To calculate the percentage of AoK coverage, the total number of settlements per county is based on OCHA settlement lists in addition to new settlements mapped by KIs reached each month.
2. Payams are the administrative unit at the sub-county level in South Sudan.
3. REACH is not currently able to report on Longochuk or Maiwut counties since not enough KIs with first-hand knowledge of these counties are present near the REACH bases in Akobo, Malakal and Renk.

To provide an overview of the situation in hard-to-reach areas of Upper Nile State (UNS), REACH uses primary data from key informants who have recently arrived from, recently visited, or receive regular information from a settlement or "Area of Knowledge" (AoK). Information for this report was collected from key informants in Malakal PoC site and Renk town in UNS in October, November and December 2019.

In-depth interviews on humanitarian needs were conducted throughout the quarter using a structured survey tool. After data collection was completed, all data was aggregated at settlement level, and settlements were assigned the modal or most credible response. When no consensus could be found for a settlement, that settlement was not included in the reporting. Only counties with interview coverage of at least 5% of all settlements in a given month were included in analysis. Due to access and operational constraints, the specific settlements assessed within each county each month vary. In order to reduce the likelihood that variations in data are attributable to coverage differences, over time analyses were only conducted for counties with at least 70% consistent payam coverage over the period. Quantitative findings were triangulated with focus group discussions (FGDs) and secondary sources. FGDs were collected throughout October, November and December by the REACH team in Renk town and in the Malakal PoC.

More details of the methodology can be found in the AoK ToRs.
UNS (excluding Fashoda) reported IDPs living in the open and 10% of assessed settlements reported the destruction of shelter due to floods.

- Access to education remained low at 35% of assessed settlements across UNS (excluding Fashoda) reporting there were no education facilities within walking distance.

**Population Movement and Displacement**

**Internal Movements**

In Maban county 85% of assessed settlements continued to report recent large-scale displacement from settlements in the county due to flooding. Similarly, in southeastern UNS secondary sources reported some displacement also caused by flooding. In Maban there was a decrease in the proportion of assessed settlements reporting IDP presence from 69% in September to 38% in December. This indicates that IDPs have either left Maban county or have concentrated on higher ground outside of settlements to avoid flooding. FGDs conducted with Mabanese participants in Renk county indicate that once the floodwater receded some people had moved to Renk from Maban to harvest simsim. This is strengthened by an increase in the proportion of assessed settlements (51% in December compared to 40% in September) in Renk reporting the presence of IDP returns in December.

In Panyikang county there was a spike in reported recent large-scale displacement from 0% of assessed settlements in September to 100% in December, reportedly due to a lack of food. Secondary sources confirm there may have been a lack of food in Panyikang in October and November and that all counties on the western bank of the Nile had reports of increased numbers of IDP presence, which would explain the displacement movements. Overall there was an increase in the proportion of assessed settlements reporting the presence of IDPs in Malakal, Manyo and Panyikang counties from 73% in September to 86% in December and in Fashoda county from 65% in September to 90% in November.

Conversely, no settlements (0%) in Manyo and Baliet counties reported recent large-scale displacement. In September 50% of assessed settlements in Manyo and 24% of those in Baliet had reported recent displacement with conflict as the most frequently cited reason. The decline in this type of movement from

**Map 2: Movement into, out of, and within UNS, October-December 2019:**

- Self-reported refl.
- IDP returns
- Internal displacement
- Flood-driven disp
- County boundary
- State boundary
- International bc
- Settlement
- Protection of
- Refugee Camp
- River
- Swamp

In Baliet is in line with a post-return monitoring assessment mission to Baliet lead by the UNHCR in November 2019. The mission reported that relations between previously rivalrous communities had been boosted by mutual trade relations and communal cattle routes.

A decrease in the proportion of assessed settlements in Baliet reporting IDP presence in December (38%) was matched with an increase in the proportion of assessed settlements reporting that “more than half” or “half” of the host community is currently residing in their settlements of origin. This may indicate that IDPs in Baliet are returning home, perhaps due to an increase in their perceived sense of safety. This is corroborated by the post-return monitoring assessment mission to Baliet lead by the UNHCR which determined that there are “continuous and increased reports of spontaneous IDP returns”.

Finally, the proportions of assessed settlements reporting IDP returns in December also rose slightly in Melut to 38% and in Nasir to 76%.

**Self-reported Cross-border Movement**

In Malakal, there was a decrease in the proportion of assessed settlements reporting refugee returns from 91% in September to 0% in December. REACH Port and Road Monitoring (PRM) supports the finding that there may be a decrease in returns to Malakal PoC in December. A decrease in the proportion of settlements that reported refugee returns in December was noted in a number of counties; Baliet (from 33% to 6%), Manyo (from 10% to 5%).

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4. FGDs participants interviewed in Renk Town confirmed that flooding was the cause of displacement in Maban, October 2019
5. Reported by FGD participants interviewed in Malakal PoC, January 2019 and in the UNICEF flood response mission report, November 2019 and an IRNA conducted by several national NGOs, October 2019
6. Reported by FGD participants interviewed in Renk Town, October 2019
7. Reported in consultations with the WFP nutrition programme team in the Malakal humanitarian hub, January 2019
8. AoK data shows that 86% of assessed settlements reported IDPs in Panyikang, Malakal and Manyo counties in December compared to 73% in September.
10. ibid.
11. REACH Port and Road Monitoring Factsheet, Renk, December 2019
production and 15% of livestock was lost due to the floods.\textsuperscript{15}

**Maban County**

Although an increased proportion of assessed settlements in Maban county reported having adequate access to food (33% in December compared to 0% in September) this number still falls short of the 100% of assessed settlements which reported adequate access to food in June 2019, prior to the flooding. The continued food insecurity is linked to a decrease in assessed settlements reporting having accessed food distributions in the last three months (38% in December down from 54% in September). This reflects challenges including flooding and security threats presented to humanitarian organizations in Maban.\textsuperscript{16}

Further, despite an increased proportion of assessed settlements (92%) reporting adequate access to land in December, likely due to receding flood waters, 100% of assessed settlements reported that crop production had been disrupted and 85% of assessed settlements predicted that the coming harvest would be worse than the previous one. This prediction is seconded by the IPC, which again classified Maban county in Phase 4 “Emergency” of the IPC for January 2020 and forecast that the county will remain in Phase 4 for the period between February and April 2020 unless it is supported by humanitarian assistance.\textsuperscript{17}

FGDs indicated that flooding restricted the flow of goods to Maban and caused a spike in market prices, further compounding the situation.\textsuperscript{18} Data from KIs confirms that 36% of the assessed settlements in Maban reported that increased cereal prices had a large impact on most peoples’ ability to access enough food. Most frequently cited strategies to cope with lack of access to food in Maban county include decreasing portion sizes (100%), buying less expensive food (85%) and reducing the number of meals consumed per day (46%).\textsuperscript{17}

**Malakal County**

Despite recent harvests, the proportion of assessed settlements reporting adequate access to food in Malakal decreased from 74% in September to 50% in December (Map 3). The most frequently cited reasons include a lack of livestock (50%) and fishing nets (22%), destruction of crops by pests (11%) and high market prices (11%). High market prices were also recorded by the Joint Market Monitoring Initiative (JMMI), which reported a spike in the cost of the Multi-Sector Minimum Expenditure Basket (MSMEB) in Malakal Town from 39,824 SSP/month in September to 85,654 SSP/month in December.\textsuperscript{20} Given that 39% of assessed settlements in December reported that households were relying on buying food, increasing market prices will have a negative impact on food security in the county (Figure 1).

Further, FAO’s Food Chain Crisis Forecast for South Sudan warned of a high risk of crop destruction by the fall armyworm, likely decreasing yields during the recent harvest season.\textsuperscript{21} Data from KIs reflects this report as decreased proportions of assessed settlements in Malakal county reported adequate access to food (50% in December down from 74% in September) and 44% of assessed settlements reported households only eating only one meal a day in December (up from 9% in September).

**Fashoda County**

In Fashoda, the proportion of assessed settlements reporting adequate access to food remained stable at 83% in November. Further, assessed settlements reporting access to cattle increased from 35% in September to 55% in November. However, the population in Fashoda may be increasingly reliant on assistance as 88% of assessed settlements reported having accessed food assistance in the last three months, 95% of assessed settlements reported...
disruptions in crop production and 55% reported the outbreak of disease amongst livestock in November (Figure 1). 23

Panyikang County

In Panyikang, although an increased proportion of assessed settlements (75% in December) reported that most people had adequate access to food (Map 3), 100% of assessed settlements reported recent large-scale displacement due to lack of food. This may be due to a combination of a poor harvest and limited access to assistance in October and November. In comparison to the 0% in December, in September 20% of assessed settlements in Panyikang reported cultivation as a food source (Figure 1). The proportion of assessed settlements reporting accessing food assistance over the last three months in the area has been consistently high in 2019, standing at 88% in December, but dipping to 48% in November. Secondary sources confirm that the general food distribution held by WFP in Panyikang in late December, was the first in three months indicating possible food scarcity in October and November. 24 Moreover, assessed settlements in Panyikang reported disruptions in crop production (63%), a decrease in access to land (63% of assessed settlements) and an increase in land disputes (75% of assessed settlements) in December. Considering this in combination with the 75% of assessed settlements that reported disease outbreaks amongst livestock, food insecurity prior to December may have been a factor contributing to displacement in Panyikang.

Northern and Central UNS (Bailit, Manyo, Melut and Renk)

In northern and central UNS, 57% of assessed settlements reported adequate access to food. In Bailit and Manyo, the proportion of assessed settlements reporting adequate access to food in December rose from 24% and 17% to 56% and 60% respectively while the proportions of assessed settlements reporting adequate access to food in Melut and Renk remained stable at 62% and 54% respectively (Map 3). 25 The reported stable or increasing food security in this area is likely due to recent harvests. Overall 81% of assessed settlements in all four counties reported that they had either already harvested, or that the harvest will be the “same” or “better” than the previous one. Finally, 90% of assessed settlements in northern and central UNS reported having access to cattle in December while only 3% reported an outbreak of disease amongst livestock. In Manyo and Melut the proportion of assessed settlements reporting disruptions in crop production remained at or below 10% while 26% of assessed settlements in Renk and 38% in Bailit reported such disruptions.

Nevertheless, it is important to note that 78% of assessed settlements in Manyo, Melut and Renk reported increased cereal prices and 47% of these assessed settlements reported that these price increases had a large impact on most people’s ability to access enough food in December. In Manyo and Melut the proportion of assessed settlements (67%) reporting an outbreak of disease amongst livestock in the area. Such reports, including those in Fashoda and Panyikang counties, are corroborated by the FAO’s Food Chain Crisis Early Warning Forecast which included a warning for a highly likely outbreak of Rift Valley Fever (RVF) in South Sudan between October and December 2019 given the “suitable environmental conditions for vector amplification, animal movement and informal marketing of infected animals”. 27

Southeastern UNS (Nasir and Ulang)

In December, adequate access to food in Nasir and Ulang remained relatively stable, as reported by 63% of assessed settlements (Map 3). However, similar to the two previous reporting periods, KIs still reported that households were reliant on food assistance (78%). 26 Nevertheless, an increased proportion of assessed settlements (100% in December up from 87% in September) in Nasir and Ulang reported sufficient access to land for cultivation, likely due to receding flood water, and 80% of assessed settlements reported having harvested already or predicted that the next harvest would be similar to the previous one. While, 78% of assessed settlements in southeastern UNS reported having access to cattle in December, there was a simultaneous increase in the proportion of assessed settlements (67%) reporting an outbreak of disease amongst livestock in the area. Such reports, including those in Fashoda and Panyikang counties, are corroborated by the FAO’s Food Chain Crisis Early Warning Bulletin October-December 2019; a vector is any agent (such as a fly or mosquito) which carries and transmits an infectious pathogen into another organism. Vector amplification therefore occurs when vectors are multiplying, perhaps due to optimal environmental conditions.
Protection

The proportion of assessed settlements across UNS excluding Fashoda, Nasir and Ulang reporting that most people felt safe most of the time increased slightly from 90% in September to 100% in December. Nevertheless, this does not necessarily mean that there were no protection incidents as perceptions of what constitutes a protection incident may differ. In Panyikang county, despite 100% of assessed settlements reporting that most people felt safe most of the time (Map 4), the proportion of assessed settlements reporting incidences of looting increased from 5% in September to 63% in December. Although REACH has no further data on this, it could be linked to the reported lack of land and the difficult harvest season in Panyikang (see FSL section for further details).

In southeastern UNS (Nasir and Ulang) the proportion of assessed settlements where most people felt safe most of the time is consistently lower compared to the rest of the state, standing at only 16% in December (Map 4). Most notably, 47% of assessed settlements in Nasir and Ulang reported that men continued to face the possibility of being killed or injured by people from other communities. This was corroborated through FGDs. The most frequently reported protection concern for both boys (27%) and girls (31%) in the area was early marriage while possibility of being killed or injured by people from other communities. This was corroborated through FGDs. The most frequently reported protection concern for both boys (27%) and girls (31%) in the area was early marriage while women were reportedly most often in danger of domestic violence (27%).

Water, Sanitation and Hygiene (WASH) and Health

Needs related to water, sanitation and hygiene remained high across UNS similar to previous reporting periods. In December, the most frequently cited source of water across UNS (excluding Fashoda) remained rivers (25% of assessed settlements) and the most frequently used handwashing technique involved the use of only water (30% of assessed settlements). These findings suggest a high risk of waterborne diseases. Regarding health, the most frequently cited problem remained malaria with 73% of assessed settlements reporting it across UNS (excluding Fashoda) in December. This aligns with the WHO epidemiological highlights published for mid-December.

Maban County

Flooding in Maban county increased WASH needs in the area. The proportion of assessed settlements in Maban county reporting access to functional boreholes decreased from 46% in September to 23% in December and the proportion of assessed settlements reporting use of latrines fell from 69% to 46% in the same period (Figure 2). FGDs with people from Maban visiting Renk town indicate that this is likely due to flooding having damaged WASH facilities.

Figure 2: Proportion of assessed settlements reporting functional boreholes and the use of latrines in Maban county in September and December 2019

Standing water remaining from flooding may have resulted in an increased mosquito population in Maban which, in turn, may be linked to the 100% of assessed settlements in that area which reported malaria as the primary health concern in December. This may have been exacerbated by lack of proper shelter and loss of mosquito nets through flooding. As a result, 46% of assessed settlements reported that the primary health problem in Maban had a significant impact on people’s ability to access enough food in December (up from 0% in September).

Fashoda, Malakal and Panyikang Counties

Access to improved water sources, latrine usage and handwashing techniques varied in Fashoda, Malakal and Panyikang. In Malakal county, 78% of assessed settlements reported that people got their water from an improved water source while the river remained the main source of water for 88% of assessed settlements in Panyikang in December similar to 80% of assessed settlements in Fashoda in November (Map 5). In Panyikang these reports were accompanied by 63% of assessed settlements reporting people getting sick from the primary water source. Soap or ash was reported to be the main hand-washing practice in 100% of assessed settlements in Panyikang in December and in Fashoda in November. In Malakal only 56% of assessed settlements reported people using soap or ash to wash hands.

Finally, although malaria remained the most frequently reported primary health problem across all three counties, 42% of assessed settlements across Malakal and Panyikang reported waterborne diseases as the primary health problem. In Fashoda this proportion stood at 30% in November. This is supported by reports of an outbreak of acute, watery diarrhea in Malakal PoC and Malakal Town.

Northern UNS (Manyo and Renk)

Compared to the last reporting period, access to water and latrines and main handwashing techniques used remained stable in northern UNS. The main health problem in northern UNS remained malaria (94% of assessed settlements) which lead to an increased proportion of assessed settlements in Manyo

Map 5: Proportion of assessed settlements reporting that people mainly got their water from an improved water source in December 2019:

28. Reported by FGD participants interviewed in Malakal PoC, January 2019
29. REACH, Situation Overview, Upper Nile, July - September 2019
31. Reported by FGD participants interviewed in Renk Town, October 2019
32. The numbers reported for “functional boreholes” are a subset of the 46% of assessed settlements which reported having boreholes in September and the 38% which reported having boreholes in December
33. Reported by FGD participants interviewed in Renk Town, November 2019
34. Reported by FGD participants interviewed in Renk Town, October 2019
35. ICCG meeting minutes Malakal humanitarian hub, January 2020
36. REACH, Situation Overview, Upper Nile, July - September 2019
(30%) reporting that the main health problem, malaria, had a large impact on peoples’ ability to access enough food in December. This indicates that persistent health problems may have an impact on the food security in the affected households.

Central UNS (Ballet and Melut)

WASH needs in central UNS were reported to be relatively high with only 15% of assessed settlement reporting access to water from an improved water source (Map 5). However, in Melut, 62% of assessed settlements reported sourcing water from water trucks which may have contributed to lower proportions of assessed settlements (7%) reporting getting sick from the water. In Ballet, where the majority (56%) of assessed settlements reported rivers as the main source of drinking water, there were much higher reports (25% of assessed settlements) of people getting sick from the drinking water. Moreover, WASH services in Ballet are reportedly under strain from the increased population resulting from continuous IDP returnees. Latrine usage was reported a relatively low proportion of assessed settlements (25%) in Ballet and 45% of those in Melut representing no significant change from the last reporting period.

Southeastern UNS (Nasir and Ulang)

In December WASH needs in Nasir and Ulang remained relatively stable but high compared to the previous quarter. However, 47% of assessed settlements reported that access to preferred water sources was restricted by safety concerns related to the high levels of reported protection incidents in southeastern UNS (see protection section for more details). Rates of latrine usage also remained stable while handwashing techniques improved slightly from only 12% of assessed settlements in the area reporting using soap or ash in September to 26% in December. Regarding health, aside from consistent reports of malaria as the main health concern, 32% of assessed settlements in Ulang reported malnutrition as a health problem, aligning with the IPC’s classification of the county in Phase 4 “Critical” of the acute malnutrition classification.

Shelter and Non-Food Items (NFIs)

In Nasir and Ulang, 76% and 77% of assessed settlements, respectively, reported the presence of IDPs living in the open. FGDs in Nasir and Ulang confirm that people were displaced from their homes without any possessions due to the rapid onset of flooding. Flooding was also reported to have caused shelter damage in 77% of assessed settlements in Maban in December. In Panyikang 63% of assessed settlements reported IDPs living in the open and 75% of assessed settlements reported shelter damage due to floods in December. In Fashoda shelter damage caused by flooding was reported by 15% of assessed settlements in November. The proportion of IDPs living in the open reportedly remained at 0% in all other counties.

Education

In December the proportion of assessed settlements reporting access to education services within walking distance increased in several counties including Malakal, Manyo, Melut, Panyikang and Ulang. Overall, 56% of the assessed settlements reported access to an education facility in UNS in December (excluding Fashoda). Lack of facilities (21%) was the most frequently reported reason for a lack of available education services by assessed settlements across UNS (except Fashoda) in December. Generally, girls were reportedly less likely to be attending school compared to boys (Figure 3). When girls were reported not to be attending school, the most frequently cited reasons were early pregnancies (14%) and each due to early marriage (8%) and school fees (8%). In comparison, the only cited reason for boys not to be attending school in December was 13% need to work outside the household, indicating that the majority of boys are attending school.

Conclusion

Although overall needs in UNS remained low and stable, flooding during the last half of 2019 has lead to increased needs specifically in Maban, Nasir and Ulang counties. Maban county was hardest hit by floods which contributed to the loss of livestock and crops as well as shelter destruction and displacement. Moreover, the lack of improvement in needs across all other counties in UNS may be worrying considering the recent harvest season. Pests, livestock disease and, increased market prices, perhaps due to flooded roads, have contributed to continuing needs in these areas.

About REACH Initiative

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).

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37. An improved water source is protected from contamination. Improved water sources include piped household water connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater collection.
38. Reported by FGD participants interviewed in Renk Town, November 2019
40. REACH, Situation Overview, Upper Nile, July - September 2019
41. IPC, South Sudan: Integrated Food Security Phase Classification Snapshot, August 2019 - April 2020
42. Reported by FGD participants interviewed in Malakal PoC, January 2020
43. Shelter damage through flooding was also reported by FGD participants interviewed in Renk Town, October 2019