

Infrastructure Mapping in Flood Affected Counties - Twic East, Jonglei State

October 2026 | South Sudan

Key Messages

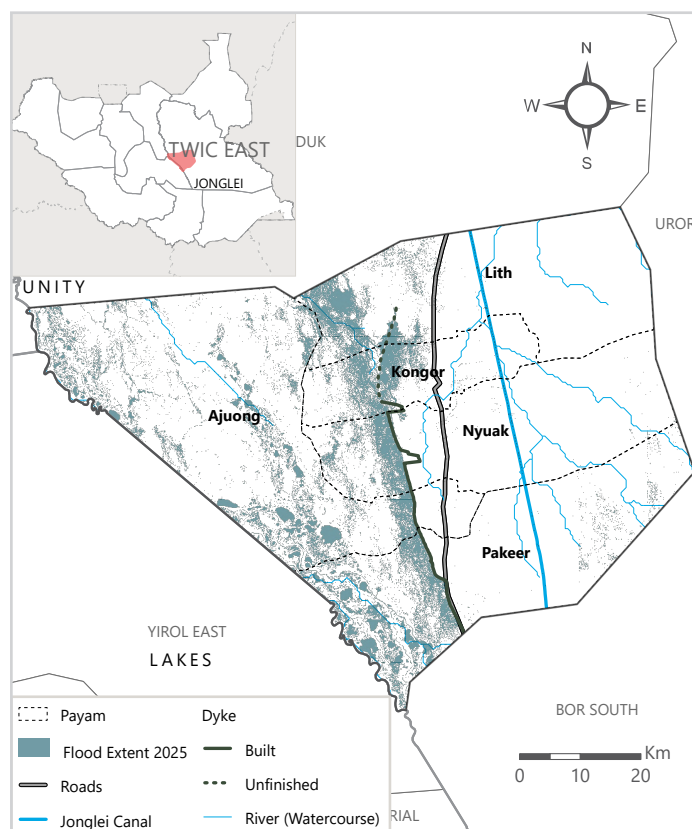
- **Flooding has severely affected critical infrastructure across Twic East County.** Of the 521 infrastructures mapped, 41% were non-functional indicating service disruptions. Kongor (213) and Nyuak (104) payams contained the highest concentration of infrastructure assets and also exhibited relatively high levels of non-functionality. This suggests that these areas experienced some of the greatest flood impacts on infrastructure and associated service delivery.
- **Education infrastructure has been the most severely affected sector.** Over half of the educational facilities (56%) were non-functional, with primary schools being most of the non-functional facilities.
- **Health facilities remained functional despite extensive physical damage.** With less than a third (29%) non functional. Of those functional (69%) common issues included structural damage (90%), loss of power or refrigeration for vaccines and medicines (55%), water damage to medical supplies (48%), and damaged diagnostic equipment (48%), which potentially affect the quality and continuity of healthcare services.
- More than a third (38%) of water points were non functional, and of those who were functional (57%) the majority showed visible signs of damage. Boreholes, which account for 63% of water sources, were particularly affected. Sanitation infrastructure was in an even poorer condition, with 53% of latrines non-functional, only 39% accessible, and 85% showing visible damage.

Context and Rationale

Flooding across South Sudan has severely affected livelihoods, food security, shelter, and access to essential services.¹ In Twic East County (Map1) floodwaters persist for months, submerging farmland, grazing areas, and entire villages. The overflow of the Nile river has repeatedly broken embankments and dikes, exacerbating the scale and duration of inundation.² Crops were destroyed before harvest, livestock have drowned or were displaced, and fishing activities were restricted by unsafe conditions. The floods have led to widespread destruction of homes, forcing tens of thousands of families to seek refuge on higher ground, in schools, churches, or temporary shelters. Critical infrastructure such as roads, health facilities, schools, and water systems have been damaged or rendered inaccessible, and to date, there's limited information on the functionality and types of infrastructure available.³

Recurrent flooding has decimated livestock and these are either displaced or lost due to a lack of grazing land and water contamination, further undermining household livelihoods. In response, many households have shifted towards fishing as a coping strategy, although this is often insufficient to meet basic needs.⁴ Additionally, flooding levels in 2026 are expected to exceed the 2020 baseline. Consequently, with the Super El Niño forecast in late 2026, findings suggest above average rainfall in Uganda and parts of South Sudan, is likely affecting infrastructure integrity.⁵

Map 1: Assessed locations and 2025 flooding extent



Educational infrastructure

Across Twic East County, less than a half (41%) of the [mapped education facilities](#) (62 facilities in total) were functional, with over half (56%) being non-functional. The majority of the non-functional educational facilities were primary schools.

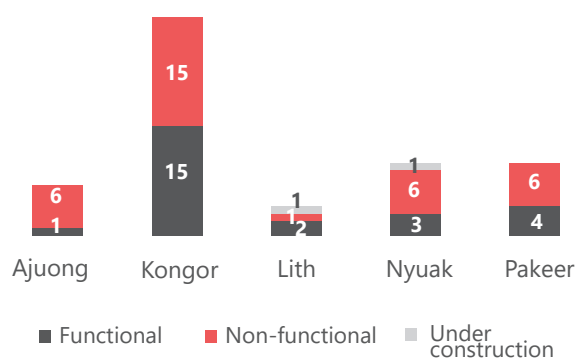
Of the educational facilities mapped, a very higher proportion (97%) have visible damages on them. Reported observable damage to the infrastructure included the following; roofing and ceilings being damaged from rain infiltration or wind (81%), cracks and sinking of the foundation and structure (76%), textbooks, library books, or records being destroyed (75%), and furniture such as desks, chairs, and cupboards being destroyed (73%).

The high level of non-functionality and widespread infrastructure damage severely limits children's access to safe and quality education across Twic East County. With less than half of education facilities functional, many school-aged children are likely facing reduced access to learning opportunities, longer travel distances to reach functioning schools, or complete exclusion from education services.

Table 1: Education infrastructure in Twic East, by type and functionality

Facility	Functional	Non-Functional
Kindergarten (8)	5	3
Primary school (41)	18	23
Secondary school (4)	2	2
Vocational school (2)	1	1
ALP (6)	1	5

Education infrastructure in Twic East, by location and functionality status



Non functional School in Paker Payam used by fishers; June 2026



Non functional school in Kongor Payam; June 2026



Top 5 most commonly reported types of damage on education facilities

- 81%** Roofing and ceilings
- 76%** Cracked and sinking foundations
- 75%** Materials
- 73%** Furniture
- 61%** Interior

Health infrastructure

Overall, more than half of the [health facilities mapped](#) (35) were functional (69%) while 29% were non-functional and 3% were still under construction. Primary health care centers (PHCC) and nutrition centers were the most mapped health infrastructure, and had the highest proportion of functional facilities - 20% of all facilities mapped were nutrition centers, while Primary health care centers accounted for 17% of the total functional facilities.

In terms of physical condition, visible damage was reported in the majority of facilities. A high proportion (83%) of mapped facilities were observed as having visible damage, compared to only 11% that showed no visible damage. Visible damages observed during data collection were related to the physical structure (90%), loss of power or fridges for vaccines and sensitive medicines (55%), water damaged stock (48%), and damages to diagnostic tools (48%). This finding suggests that although a substantial proportion of health facilities remain functional, many continue to operate under damaged conditions.

Non-functional Health Facility in Nyuak Payam; June 2026



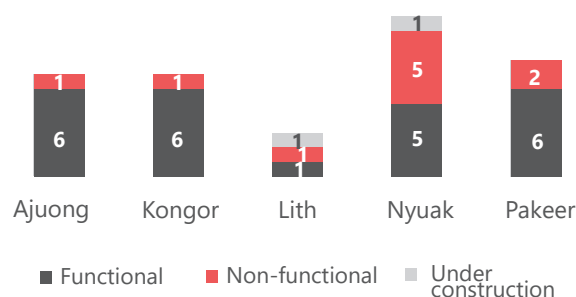
Functional Health Facility in Kongor Payam with no proper storage; June 2026



Table 2: Health infrastructure in Twic East, by type and functionality

Facility	Functional	Non-Functional
Hospital (3)	2	1
Specialized medical health centre (6)	5	1
Nutrition Centre (10)	7	3
Primary Healthcare Centre (7)	6	1
Primary Healthcare Unit (9)	5	4

Health infrastructure in Twic East, by functionality and location



Top 5 most commonly reported types of damage on healthcare facilities

- 89%** Damage to the building structure
- 55%** No power or fridges
- 48%** No drugs stock
- 48%** Damaged equipment
- 41%** No sterile zone

Water, Sanitation, and Hygiene (WASH) infrastructure

Water points (160) varied across Twic East County, with boreholes (63%) and water surface (17%) being predominantly the [mapped water sources](#). Regarding functionality, 57% of mapped water points were functional, while 38% were non-functional and 5% were still under construction. This indicates that although more than half of the water infrastructure remains functional, a substantial proportion is currently unable to provide water services, potentially affecting access to safe water for communities.

Of the mapped boreholes, 41% were functional, 20% were non-functional, and 2% were under construction. Surface water sources represented 17% of water points, with 10% functional and 7% non-functional, indicating reliance on both improved and unimproved water sources.

In addition, water access remained moderately stable across seasons, with 66% of water points reported to be functional during both the dry and rainy seasons, while 32% were non-functional.

Table 3: Water sources in Twic East, by type and functionality

Facility	Functional	Non-Functional
Borehole/electric pump (100)	68	32
Open water/tank reservoir (5)	2	3
Protected well/hand pumps (4)	1	3
Storage tank (8)	4	4
Surface water (28)	16	12
Tap water and kiosks (15)	8	7

Top 5 most commonly reported types of damage on water points

- 56%** Pump failure
- 54%** Contamination
- 53%** Submerged
- 48%** Turbidity in the water
- 33%** Solar damage

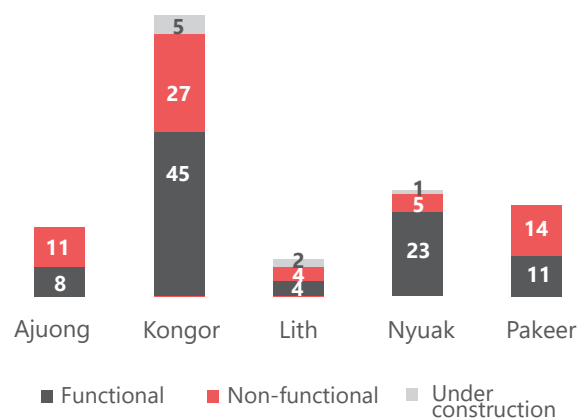
Collapsed toilet in Ajoung Payam; June 2026



Functional borehole in Kongor Payam without proper apron; June 2026



Functionality of water sources in Twic East, by location



Despite water points being functional, almost three quarter (72%) were reported to have visible damage, and these mainly included water sources being filled with mud and debris (77%), concrete aprons washed away (68%), handpump components being damaged (56%), and contamination with visible pollutants (54%)

Regarding latrines, a high proportion (53%) of mapped latrines were non-functional. Additionally, access to latrines remained relatively low, with only 39% of facilities accessible. The limited accessibility may restrict the ability of the community to use sanitation facilities safely and conveniently, potentially increasing the risk of open defecation and hygiene-related health concerns.

Furthermore, the physical condition of sanitation infrastructure is also a significant concern. While 60% of latrines had doors in place, 39% lacked doors, undermining privacy and safety.

Conclusion

Overall, findings from this assessment suggest challenges affecting the functionality and condition of essential services across Twic East County. Education facilities were the most severely impacted, with the majority non-functional and almost all showing visible flood-related damage, limiting access to learning opportunities for children. While most health facilities remained functional, structural and equipment damage reflect that many facilities continue to provide services under compromised conditions.

Similarly, although over half of the mapped water points were functional, physical damage and the high proportion of non-functional facilities continue to constrain reliable access to safe water. Sanitation infrastructure remains particularly concerning, with most latrines non-functional and many lacking privacy.

Endnotes

1. [UNOCHA, South Sudan, flooding situation flash update no.7, October 2025; UNOCHA, South Sudan, floods snapshot, November 2025.](#)
2. [UNICEF, South Sudan, facing the floods, August 2024](#)
3. [UNOCHA, South Sudan, flooding situation flash update no.7, October 2025; UNOCHA, South Sudan, floods snapshot, November 2025](#)
4. [UNOCHA, South Sudan humanitarian update, May 2026](#)
5. [FEWS NET, South Sudan, East Africa - seasonal monitor, May 2026](#)



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Methodology Overview

Between 11th and 23rd June 2026, REACH conducted an infrastructure mapping exercise in all the five payams of Twic East County. A total of 521 infrastructure sites were mapped and assessed, including education, health, WASH, places of worship, marketplaces, transport, and administrative facilities.

With the support of guides in each payam, REACH enumerators identified key infrastructure and a key informant within each settlement.

The selected key informants had knowledge of their respective areas and were asked a set of questions regarding the location, type, functionality, and flood impacts affecting the identified infrastructure. In addition, the assessment employed an observational approach in which enumerators were trained to make observations on the infrastructure. Data was also collected on [administrative](#) and [community](#) facilities.

Limitations

- Information provided by key informants on functionality of the infrastructure may differ based on their perspective and potentially affect consistency. The exact period when each facility became non-functional, duration of non functionality and any plans to do repairs were not possible to collected.
- During the assessment, enumerators observed infrastructure for damage, which may involve some subjectivity.
- Due to flooded areas, some areas in Dong Boma, Lith Payam were inaccessible.

Links to Published Maps

- [Education infrastructure in Twic East, by type and functionality](#)
- [Health Infrastructure in Twic East, by type and functionality](#)
- [Water sources in Twic East, by type and functionality](#)
- [Administrative Infrastructure in Twic East, by type and functionality](#)
- [Community Infrastructure in Twic East, by type and functionality](#)

ABOUT REACH

REACH Initiative 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).