WASH Infrastructure Mapping

Magwi, Eastern Equatoria State

August 2021

Introduction

The dynamic and multi-faceted nature of the South Sudanese displacement crisis has created significant challenges for the delivery of humanitarian aid. Accessibility issues within South Sudan have impeded a systematic understanding of WASH needs in many areas of the country. This has created difficulties in establishing a clear and unambiguous system for prioritising the delivery of aid, thereby limiting the effectiveness of humanitarian planning and limiting the potential impact of donor funding. In order to fill this information gap, REACH conducted a WASH infrastructure mapping exercise in Magwi. Data collection took place on December 9th, 2020 and succeeded in mapping 889 latrines and 139 waterpoints. Key findings are presented below in charts (pies & bars) and maps with figures in percentages (%) and numbers assessed enclosed in parenthesis next to each percentage value.

Methodology

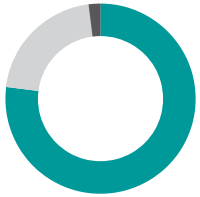
Using a GIS software, a polygon covering the municipal area was created and subdivided into grids squares of 250 meters of side length. Each of the resulting 219 square grids was assigned to a team of 11 enumerators to map and assess existing WASH infrastructure. GPS points were recorded also for grids where no WASH infrastructure data collected was identified. Enumerators were trained to use mobile applications (MapsMe and Kobo) that allowed them to georeference data collected, as well as to independently test water quality through hydrogen sulfide (H2S) tests.

For grids that could not be physically assessed through direct observation (due to lack of access), participatory mapping was conducted. As a result, 71% coverage was achieved (155/219 grids). Further details on the methodology and data collection tools can be found in the Terms of Reference.

Waterpoints

Waterpoints by type

Manual borehole	71% (98)
Unprotected wells	21% (29)
Piped system/stand pipe	4% (4)
Motorized boreholes	2% (1)
Water kiosks	2% (1)



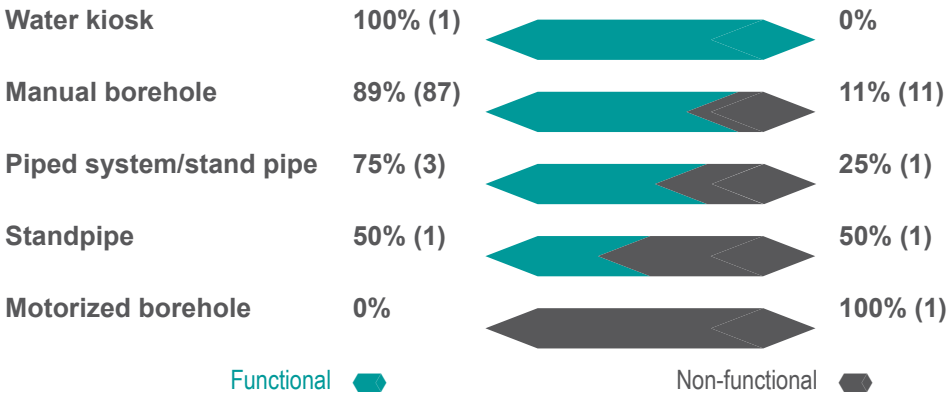
Waterpoints by type

77% (106)	Improved (3)
21% (29)	Unimproved
2% (3)	Other

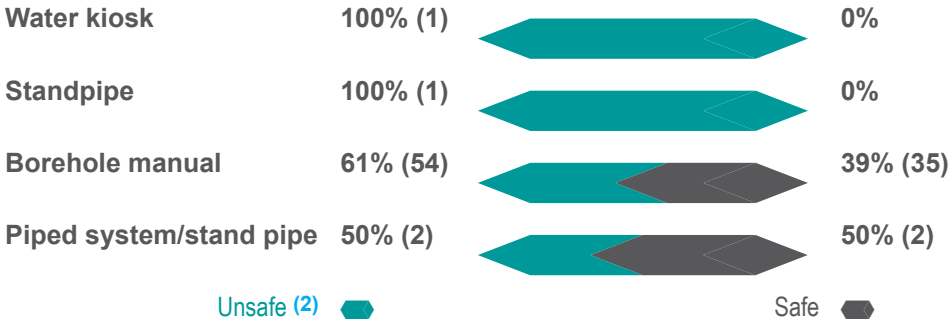
Waterpoints functionality

89% (123)	Functional
11% (15)	Non-functional

Improved waterpoints functionality by type



Improved waterpoints type with water quality test results



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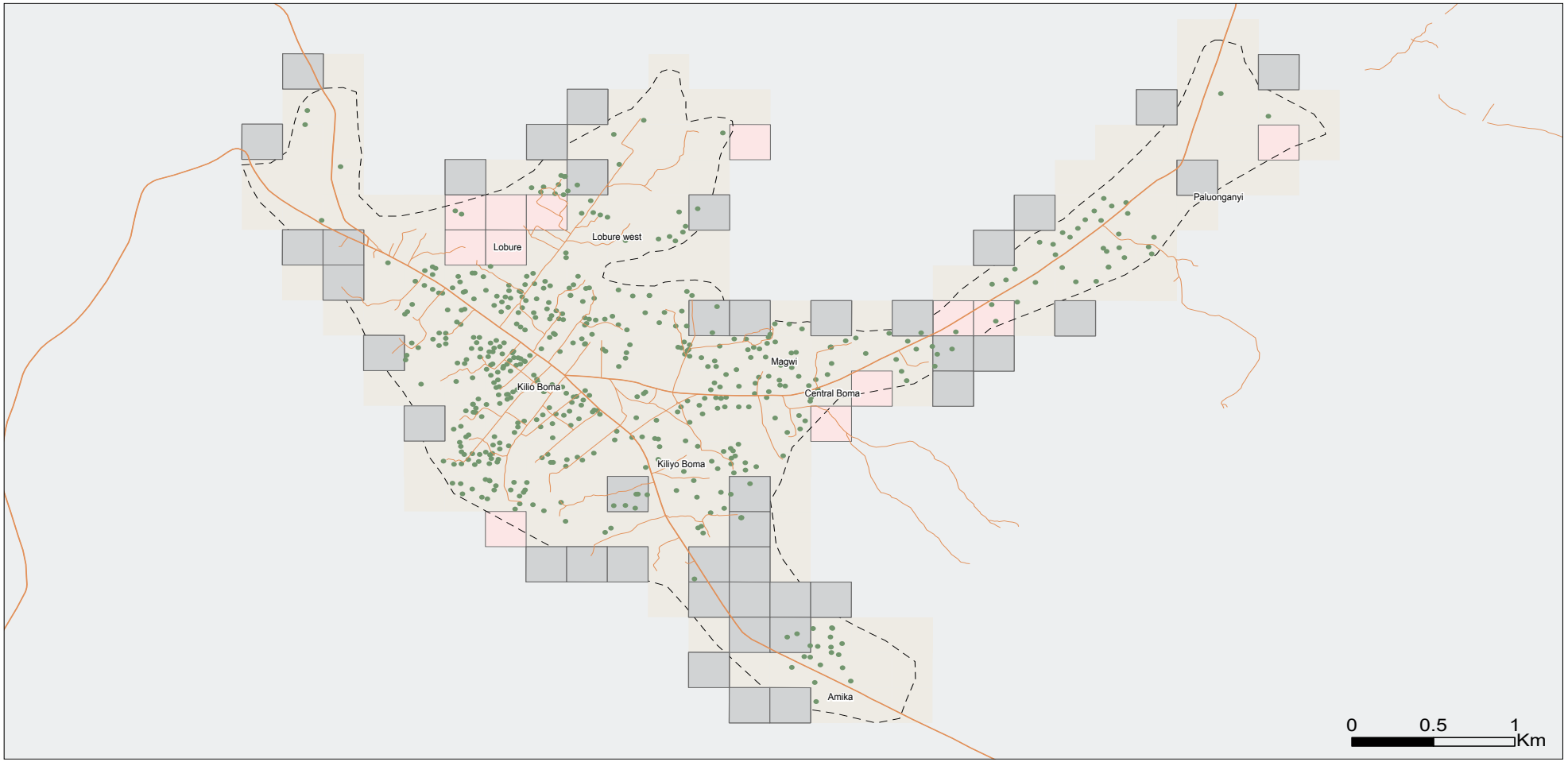
Magwi Assessment Coverage Map



Assessed points (859)

Roads

Assessed areas: 0.2Km² (155 assessed 0.2Km² grids covered out of 219)

Magwi town extent

Observed inhabited areas

No infrastructure observed

Limited information/ inaccessible areas

Infrastructure: REACH (2018)
Roads: © OpenStreetMap contributors (2020)
Coordinate System: WGS 1984 UTM Zone 36N
File: REACH_SSD_Map_WASH_Infra_Magwi_Town_Assessment_Coverage_May2021
Contact: south.sudan@reach-initiative.org

Note: Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by the REACH partners, associates, donors mentioned on this map.

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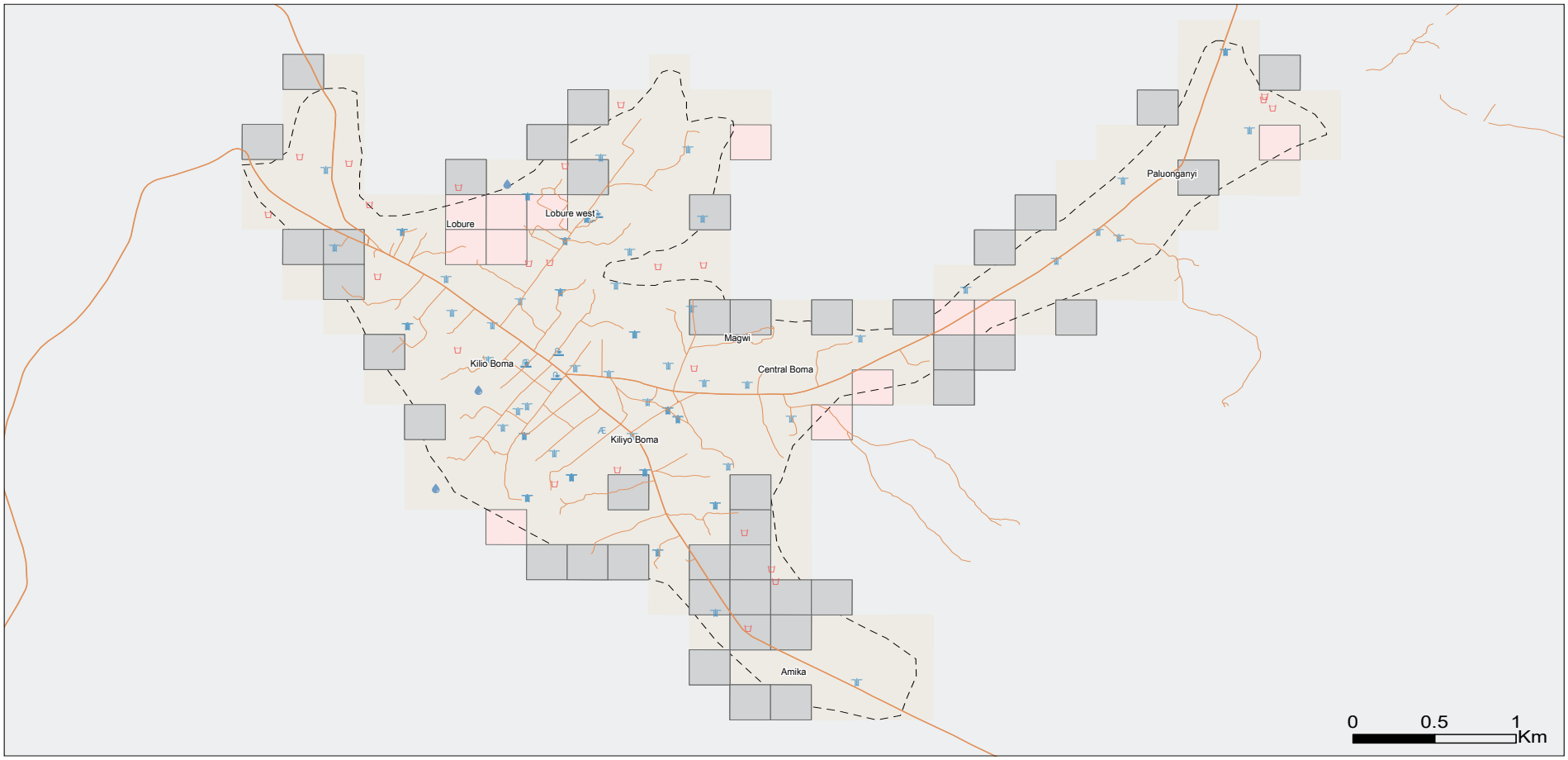
Magwi Waterpoints Types Map



Water Point Types

- Manual borehole (68)
- Motorized borehole (1)
- Other (3)
- Piped line (4)
- Roads
- Stand pipe (1)
- Unprotected well (23)
- Water kiosk (1)

Assessed areas: 0.2Km² (155 assessed 0.2Km² grids covered out of 219)

- Magwi town extent
- Observed inhabited areas
- No infrastructure observed
- Limited information/ inaccessible areas

Infrastructure: REACH (2018)
Roads: © OpenStreetMap contributors (2020)
Coordinate System: WGS 1984 UTM Zone 36N
File: REACH_SSD_Map_WASH_Infra_Magwi_Town_Water_Points_Types_May2021 1
Contact: south.sudan@reach-initiative.org

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Waterpoints requiring payment

52% (72) Do not require payment

46% (63) Require payment

2% (3) unknown

Sanitation

Latrine by type

Family latrine (6)	89% (792)
Shared latrine (7)	6% (51)
Community/institutional latrine (5)	5% (41)
Unable to confirm	1% (5)

Latrine with lockable doors

63% (108) With lockable doors

37% (63) Without lockable doors

Estimated latrine sludge level

72% (124) Less full with sludge

22% (38) Almost full with sludge

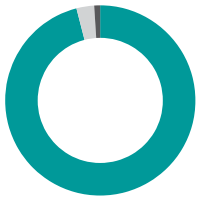
4% (7) Unable to confirm

2% (3) Full with sludge

Latrine by cleanliness

72% (123) Unclean (4)

28% (48) Clean



Accessibility to latrine

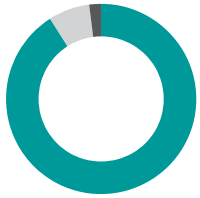
96% (856) Accessible to everyone

3% (25) Not accessible to everyone

1% (8) Unable to confirm

Functional handwashing station at latrine

No handwashing station	77% (686)
Handwashing station with water only	14% (126)
Handwashing station with water & soap/ash	6% (49)
Handwashing station with soap/ash only	3% (25)



Latrine requiring payment

91%(87) Do not require payment

7%(7) Unknown

2%(2) Require payment

footnotes

1. () numbers in parenthesis indicate number of facilities assessed
2. A water point is **unsafe** to drink when it is contaminated by faecal matter (e.g. H2S test result turn black) and a water point is **safe** to drink when it is free from faecal contamination (e.g. H2S test result do not turn black) (WHO,2017)
3. **Improved** water source is the water source that, by its nature of its design and construction is likely to be protected from faecal contamination (e.g. boreholes, protected wells, storage tanks, water kiosks and piped systems) and **Unimproved** water source is the water source that is likely to be contaminated by faecal matter (e.g. unprotected well, unprotected springs, unequipped borehole etc) (JMP,2020)
4. A latrine was considered unclean when faeces were found on it(JMP,2020).
5. A communal/institutional latrine refers to latrines found in public areas such as NGOs compounds, schools, churches/mosques etc. (JMP,2020)
6. A family latrines refer to latrines used by a particular household with full latrine ownership, construction and maintenance (JMP,2020)
7. Shared latrines refer to those used by a number of households, who are all responsible for care and maintenance (JMP,2020)

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