

JUBA-RUMBEEK-MAYENDIT-BENTIU-WAU-MUNDRI ROAD ASSESSMENT MISSION

Date(s):	06 – 18 July, 2013
Location(s):	Juba-Yirol-Rumbek Rumbek-Maper-Mayendit-Bentiu Bentiu-Mayom-Abiemnhom-Kuajok-Wau Wau-Tonj-Rumbek Rumbek-Mvolo-Munrdi-Jambo-Juba
Participating Organisation(s):	Logistics Cluster, UNOPS
Security:	Levels 1, 2, & 3

1. MISSION OBJECTIVES

- Use GPS and Spatial Data Infrastructure-Transport (SDI-T) tools to assess the status of identified routes (*see above*) and evaluate their capacity to support humanitarian access.
- Identify the location(s) of any damaged road segments, bridges, and/or culverts and recommend repairs; determine the current level of access for humanitarian actors and the Common Transport Service (CTS).
- Collect information and assess the possibility of using the Nyaroump river port; located off the Mayendit-Bentiu section of the Rumbek-Maper-Mayendit-Bentiu road, approximately 95km outbound from Bentiu (*see included map*).

2. BRIEF

This mission was undertaken to address a gap concerning logistics information and to map out road access constraints, bridges, culverts, ports, airstrips, and missing villages in the database using GPS and SDI-T tools. The road assessment team identified deteriorated road sections and evaluated the possibility of using existing road corridors from Juba into Central Equatoria, Lakes, Unity, Warrap, and Western Equatoria States. The mission team (four staff members) travelled approximately 1,600 km from Juba by road through Rumbek, Bentiu, Mayom, Abiemnhom, Wunrok, Kuajok, Wau, and Mundri from 06 to 18 July 2013.

The key road corridors (Rumbek-Bentiu; Mayom-Abiemnhom) and some culverts are severely damaged and closed for all traffic. The Terakeka-Awerial road corridor is deteriorated and may not be passable during the peak of the rainy season (August to October) for any type of vehicle. The Jambo-Kuda and Juba-Terakeka road corridors are deteriorated (with many potholes) but passable, with difficulty, during the peak of the rainy season for all types of vehicles. The Yirol-Alaukluk and Yirol-Awerial road sections were severely damaged in August/September 2012 which resulted in full closure of the road section, a private contractor is currently rehabilitating (spot repairs) these road sections.

Utilizing the river corridors (Nile and Bahr el Ghazal River) is another option for travel from Malakal and Juba to reach Bentiu. The Bahr el Ghazal River is open for boats only, limited to 30MT from Malakal to Bentiu via the Nile River. Nyaroump Port is located on Nyaroump lake (95km outbound from Bentiu, on the Bentiu-Leer-Rumbek road) which connects to the Nile River. The Nyaroump Port has a steel flat form to dock barges and boats. The approach road into the port (10 km) is gravel and only passable for trucks limited to 40mt during all seasons. According to the local community, barges cannot reach the port by river due to the elephant grass between the river and lake (approximately 400 m). If the local community is mobilized the grass can be cleared in two days to open the passage

for barges. The assessment team also observed that local communities are rehabilitating deteriorated road sections (spot repairs) and culverts between Leer junction and Mir Mir town, however these repairs will not sustain for a long period due to flooding and heavy traffic.

The Luri Bridge is located 20km outbound from Juba on the Juba-Rokon-Mundri Road. The bridge was damaged/tilted on 27 April 2012 which resulted in the full closure of the crossing for several weeks. A drift culvert was built by a private construction company on 09 May 2012. On 26 June 2012, a new Bialy Bridge was installed at the site of the old damaged/tilted bridge section. Currently, the newly installed Luri Bridge section (approximately 40m long and 6m wide) abutment wall has collapsed and is not currently passable for any traffic. During periods of heavy rain the drift passage will not be passable for any traffic on the Luri River (this includes pedestrians and motorcycles).

3. FINDINGS & OBSERVATIONS

Juba-Yirol-Rumbek Road Corridor

Distance: 420km; Travel Time: 15hrs (4WD vehicle) and 30hrs (heavy vehicles >20MT)

- Juba to Terakeka Road is Tarmac (all weather) for the first eight kilometres. The remaining road section is gravel and is slightly damaged with many potholes. However, the road is passable with difficulty for all traffic during the rainy season. The road section will further deteriorate due to heavy trucks transporting gravel from barrow pits to Juba (See photo A).
- Terakeka to Yirol road is gravel and badly damaged at various sections. Only light vehicles can pass during the rainy season, and only after two dry days. There are some culverts which need to be installed and/or repaired to enable traffic to pass smoothly. A private contractor is rehabilitating the road section (spot repairs) from Awerial to Yirol (See photo B, C, D).



A. Juba-Terakeka Road



B. Road erosion at culvert after Terakeka Junction



C. Road erosion at Gongor culvert



D. Terakeka-Awerial road is in bad condition

- Yirol to Rumbek Road is smooth for the first 40 kilometres and then is rough from Aluakluak to Rumbek with many potholes but is passable for all traffic, year around. The road section potholes are being filled with sand and black cotton soil from the road side which will deteriorate after a few rains and will render the road impassable for all vehicles. The Aluakluak to Rumbek Road section is severely damaged with many potholes however, traffic is still able to pass during all seasons, with difficulty for all traffic.
- On the Aluakluak to Rumbek road section, Baar-Naam Culvert has been repaired and is in good condition enabling all traffic to pass during all seasons.
- On the Aluakluak to Rumbek road section, the average speed for 4 X 4 vehicles is 30 km/hour and 20 km/hour for light vehicles.
- Numerous culverts are required between Yirol to Alaukluak to allow traffic to pass. Payyi River flooding causes damage to this road section during the rainy season from August to October.

Rumbek-Maper-Mayendit-Bentiu Road Corridor

Distance: 320km; travel time: 18hrs (4WD vehicle) and 36hrs (heavy vehicles >20MT)

- Rumbek to Maper Road is gravel and smooth for first 30 km and then the road is rough (with many potholes) for the following 70km and is only passable with difficulty for light vehicles after two dry days during the rainy season (see photo E).
- Maper to Mayendit Road is gravel up to the Madol (approximately 30km) and the following 32km is sandy and black cotton soil. This section (Maper-Mayendit road) is severely damaged and impassable for all traffic during the rainy season. Many new culverts are required at the damaged road sections along Madhol-Mayendit. Maper-Mayendit Road section will further deteriorate with heavy rains and may not passable for any traffic from August-October (see photo F, G, H, I, J).



E. Road damaged before Maper (40km, after 3 dry days)



F. Road damaged after Maper (20km, after 3 dry days)



G. Road damaged before Madol (after 3 dry days)



H. Road damaged after Madol (after 3 dry days)



I. Flooding before Mayendit (2 September 2012)



J. Road damaged before Mayendit (8 July 2013)

- Mayendit Culvert was damaged last year and has not yet been repaired. The soil has eroded for more than a year which may cause the restriction of traffic even during the dry season due to its location in proximity to the Mayendit River). Mayendit Junction to Mayendit Road was flooded during a previous Logistics Cluster mission during the first week of September 2012 and the damage is deteriorated further than last year (see photo K, L).



K. Mayendit culvert road eroded (2 Sep 2012)



L. Mayendit culvert road eroded (8 July 2013)

- During this mission private trucks were still attempting to use the Rumbek-Bentiu Road corridor. Once the transporters discovered that the road section has deteriorated they returned back to Rumbek and diverted to the Wau Road corridor to reach Bentiu. Trucks are still attempting to use the Bentiu-Rumbek Road corridor from Bentiu due to check points and insecurity along the Bentiu-Mayom Road.
- A two foot high dike wall has been constructed with local black cotton soil around Mayendit town to protect it from flood water during the rainy season.
- Mayendit to Leer Junction Road and culverts are severely damaged which makes this section impassable for all traffic from August - October (see photo M, N).



M. Mayendit-Leer Junction road (after 3 dry days)



N. Mayendit-Leer Junction road (after 3 dry days)

- Leer Junction to Mir Mir Road section is currently passable for light vehicles only. The local community is carrying out temporary repairs to the potholes and some culverts with local wood and road side sand at washed away road sections. These spot repairs by the local community on trunk roads will not sustain for long periods due to the heavy traffic and impending rains. The road will become inaccessible for all traffic due to flooding and heavy use in the current condition, even with community hand rehabilitation (see photo O, P).

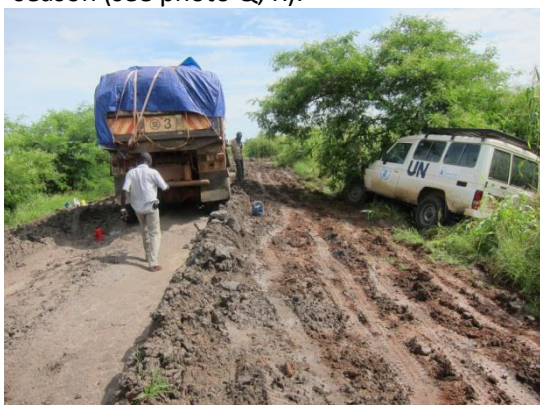


O. Rupkuai culvert road eroded (2 Sep 2012)



P. Rupkuai culvert repaired by local community (11 July 2013)

- Mir Mir to Tharjath Road is severely damaged and impassable for all traffic during the rainy season (see photo Q, R).



Q. Mir Mir-Tharjath road damaged (2 Sep 2012)



R. Mir Mir-Tharjath road damaged (11 July 2013)

- Tharjath to Bentiu Road is rough with some potholes but passable for all traffic all year around. Tharjath Airstrip is constructed with gravel which is functional for fixed wing aircraft during all seasons.
- Nyaroump Port is gravel and has a steel flat form to dock barges and boats, located

approximately 100km from Bentiu, near the Tharjath (20km) (see map). The approach by road is gravel and usable during all seasons to the port. The port is often used by private companies to bring drinking water from the Nile River to Tharjath. The port access road is 10 km from the main road and is in good condition and passable for trucks (limited to 40mt) during all seasons. The port is located on the bank of Nyaroump Lake which is connected to the Nile River. There is substantial elephant grass which divides the lake and river and which makes movement of barges not possible. The port has a landing site (100 m wide and 80 m long) which is compacted with gravel and suitable for traffic during all seasons. There is a docking wall present to allow for large barges to operate at the port, however, as mentioned it is currently not possible with the existing elephant grass. According to the local authority, grass clearance can be conducted in two days to open the passage for barges to Nyaroump Port from the Nile River (photo S-U).



S. Nyaroump Port road and Port Lake on Google Map (2010); Between Lake and Nile River the distance is approx. 400m



T. Nyaroump Port



U. Nyaroump Port on Nile River

- Pariang Junction inbound and outbound roads are smooth and currently under rehabilitation by private companies.

Bentiu-Mayom-Abiemnhom-Kuajok-Wau Road Corridor

Distance: 370km; travel time: 22hrs (4WD vehicle) & 30hrs (heavy vehicles >20MT)

- Bentiu to Mayom Road is gravel from Bentiu to Tumor and is smooth and passable for all traffic during all seasons. Tumor to Mayom Road section is rough and passable with difficulty, only for light vehicles during the rainy season.
- Mayom to Abiemnhom Road is severely damaged and impassable for all traffic during the peak of the rainy season (August to October). During this mission, approximately 20 trucks were observed stuck along the road stretch, including light vehicles between Mayom and Abiemnhom (see photo V-Y).



V. Mayom –Abiemnhom road (muddy)



W. Mayom –Abiemnhom road (muddy)



X. Mayom-Abiemnhom road (muddy)



Y. Mayom-Abiemnhom road (muddy)

- Abiemnhom to Wau Road is gravel and smooth and is passable for all traffic during all seasons.

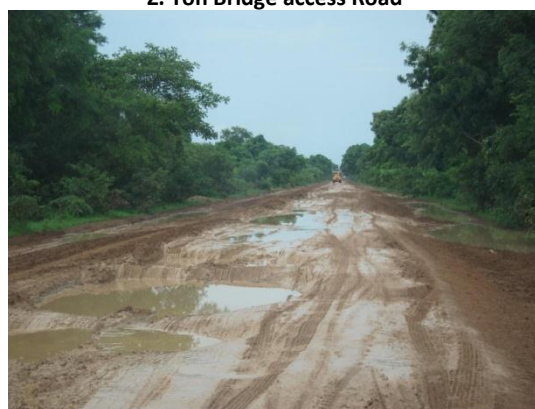
Wau-Tonj-Rumbek Road Corridor

Distance: 225km; travel time: 10hrs (4WD vehicles) & 18hrs (heavy vehicles >20MT)

- Wau to Cuibet Road is gravel and smooth and is passable for all traffic during all seasons.
- Tonj Bridge was reconstructed in April 1974 by the government and is still in good condition. The Tonj Bridge access road potholes are under rehabilitation by the local authorities. The bridge is passable for all traffic during all seasons (see photo Z).
- Cuibet to Rumbek Road is gravel and rough (with many potholes) however the road is passable, with difficulty, for all traffic during all seasons (see photo AA).



Z. Ton Bridge access Road



AA. Cuibet to Rumbek Road

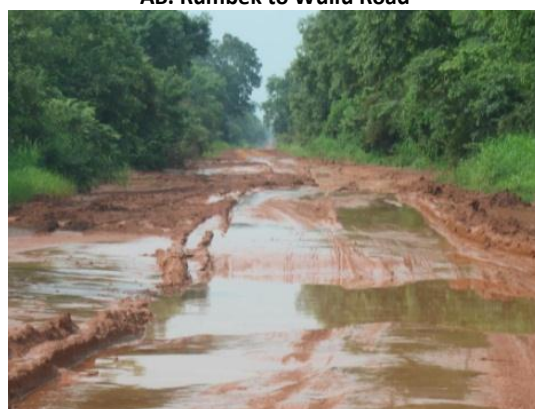
Rumbek-Mvolo-Mundri-Jambo-Juba Road Corridor

Distance: 390 km; travel time: 17 hrs (4WD vehicle) & 25 hrs (heavy vehicles >20mt)

- Rumbek to Mvolo Road is gravel and smooth and passable for all traffic during all seasons. The road section is rough fifteen kilometres before Doteku and the following fifteen kilometres after Doteku. However, the road is passable for all traffic during all seasons (see photo AB).
- Mvolo to Mundri Road is gravel and smooth up to Mayewe. After Mayewe, the road is moderately damaged with many potholes however all traffic is passable, with difficulty, during all seasons (see photo AC).
- Mundri to Jambo Road is passable for traffic during all seasons.
- Jambo to Kuda Road is gravel and rough (with many potholes) however is passable, with difficulty, for all traffic during all seasons.
- Kuda to Juba Road is smooth and passable for all traffic during the dry season, however if Luri River water levels are high the road may not be passable for traffic during the rainy season across the drift culvert.
- Luri Bridge is impassable for all traffic. The newly built access road and abutment base to the bridge has collapsed and the bridge is impassable for all traffic including pedestrians/motorcycles. The span of the bridge is approximately 60m long and 7m wide (see Photo AD & AE).



AB. Rumbek to Wullu Road



AC. Mayewe to Mundri junction Road



AD: Luri Bridge, damaged on 27 April 2012(before)



AE: Luri Bialy Bridge installed on 26 June 2012 (after)

- However, the newly constructed Bialy Bridge is built on the old abutment and is only 40m long by 6m wide (approximately). The drift culvert section is passable only for heavy traffic after three days without rains and only if water levels are less than one meter on the drift. Passage for light vehicles and motorcycles is currently not recommended as it is dangerous to pass via the drift culvert and may result in vehicle loss (see photo AF-AI).



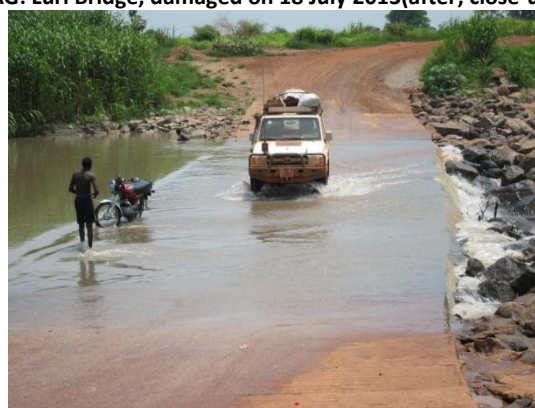
AF: Luri Bridge, damaged on 18 July 2013(after)



AG: Luri Bridge, damaged on 18 July 2013(after; close-up)



AH: Traffic passing Luri River on 22 August 2012



AI: Traffic passing Luri River on 18 July 2013

4. RECOMMENDATIONS & CONCLUSIONS

- Two culverts and the road section between Terakeka and Awerial need to be rehabilitated immediately to enable humanitarian access during the rainy season.
- Rumbek-Bentiu Road corridor needs to be rehabilitated at the key damaged road sections (Maper-Mayendit; Mayendit-Mir Mir-Tharjath) and the Mayendit Culvert needs to be repaired immediately.
- The private construction company currently working on the Yirol inbound/outbound road sections to enable access to Rumbek and Juba during this rainy season.
- Several culverts need to be installed between Madol and Tharjatgh to allow for water to pass through the road without deteriorating the existing infrastructure.
- Ten trucks were stuck along the Bentiu-Rumbek Road corridor due to heavy rains and poor road conditions.
- Elephant grass needs to be cleared between Nyaroump Port Lake and Nile River to allow barges to dock which will be the only way to reach Bentiu during rainy season with the current infrastructure.
- Mayom to Abiemnhom Road needs to be rehabilitated immediately to allow humanitarian access to Bentiu and further to Refugee camps in Unity State.
- Luri River Bridge needs to be repaired immediately as the drift culvert and bridge are one of two main road corridors critical to gaining access to Western Equatoria and Lakes states.

5. OTHER FINDINGS

- Weather: Heavy rains were reported in Unity, Lakes, and Western Equatoria States during the field mission.
- Security: During the mission, security was normal and stable. However, many new check points

were encountered along the Bentiu-Mayom-Abiemnhom Road. Commercial transporters have reported robbery incidents by unknown armed actors along the Madol-Mayendit-Tharjath Road.

- Agriculture: Sorghum, maize, and sesame crop cultivation were observed along the mission route (Juba-Rumbek-Mayendit-Bentiu-Mayom-Wau-Mundri).
- Most of the gravel borrow pits observed were filled with rain flood water. Gravel is available along the Kuajok-Wau-Rumbek-Yirol-Mundri-Juba road corridors except Rumbek-Bentiu-Mayom-Wunrok Road.
- NGOs and UNMISS field bases have moved out of Mayom town and only one WFP Mobile Storage Unit (MSU) is currently remaining.
- Around 15 trucks were stuck along the Rumbek-Betntiu Road corridor during the mission.
- According to verbal reports from commercial transporters, they have been charged approximately 5,000 SSP at various check points along the Bentiu-Mayom-Wau road corridor.

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ROAD ASSESSMENT

