



## United Nations Joint Logistics Centre – Sudan Light Vehicle Convoy from Khartoum to Juba – April 2007

### Introduction:

In April of 2007, UNJLC organized and led a light vehicle convoy of six vehicles with twelve participants (two UNJLC vehicles, two WFP vehicles, one UNDSS vehicle and one War Child vehicle) from Khartoum to Juba. This convoy was a preliminary step in the South Sudan Resident Coordinator's Office's on-going efforts to explore the potential for overland travel throughout South Sudan in the Dry and Wet seasons, in order to increase the efficiency and cost of operations in the region. The convoy's objectives were to transport additional vehicles to Juba facilities, conduct a preliminary survey of overland travel options between northern and southern Sudan, assess limitations on infrastructure and logistics, conduct GPS road mapping, and perform a basic security assessment.

### Basic Itinerary:

April 20th - April 25th

20 <sup>th</sup> Khartoum -El Obeid:	627km	[7am-5pm]
21 <sup>st</sup> El Obeid-El Muglad:	451km	[7am-7pm]
22 <sup>nd</sup> El Muglad-Aweil:	341km	[7am-6pm]
23 <sup>rd</sup> Aweil-Wau:	154km	[7am-3pm]
24 <sup>th</sup> Wau-Rumbek:	230km	[7am-1pm]
25 <sup>th</sup> Rumbek-Juba:	423km	[7am-7pm]

Total: 2260km in 6 days.

### Preparation and Planning:

It is critical that any convoy movement be planned solely for the dry season. The planning process should take into account two main considerations:

- 1) In all except the northernmost leg of travel, all roads are dirt roads and frequently constructed from unsuitable soils. These roads are highly degraded with every successive rainy season and even those rehabilitated in the preceding dry season are likely to be un-drivable or only drivable at very limited speed (20km/hour).
- 2) River crossing points are almost universally impassable in the rainy season due to the rising waters. Rivers will generally not be passable until 6 to 8 weeks after the end of the rainy season. The implication is that overland travel between Khartoum and Juba should only be attempted between the end of October and the beginning of May. Agency fuel facilities such as those of UNMIS and WFP should be contacted in advance of convoys to ensure supplies, availability and cooperation.

Fuel is a serious consideration. All vehicles should carry full double tanks and 80 litres of reserve in jerry-cans. Fuel stations are few and far between in Kordofan and Bahr El Ghazal making it critical that all convoy vehicles have sufficient reserves to travel between known fuelling points, in this case El Obeid and Aweil. Fuel bought at trucking stops such as Meiram may be watered down, resulting in fuel-filtering problems that require road side installation of a new fuel filter.

Vehicle Maintenance should be planned for. Even brand new vehicles are likely to require spot repairs on this journey. Two spare tires, tire irons, jack, spare oil and fuel filters, a spare belt, basic tools, motor oil, coolant, and other contingent parts should be carried for each vehicle. It is also advisable to have a trained mechanic as a member of the convoy who can take charge of this aspect of planning before departure.

Each individual member of the convoy must be personally responsible for their food and water. While food and water may be available en-route, the quality and frequency is limited at times. In addition to six days of food and water, individuals should plan for vehicle breakdown or other emergency situations that may require extended time in the desert without immediate support. Accommodation is similarly restricted. Each individual should bring a tent, light sleeping bag, sleeping mat, mosquito net, two torches, lighter and all personal items required for camping. Guest houses are available in some major towns along the route but not all, making this equipment a necessity for contingency situations. Similarly, sufficient personal cash should be carried by each individual to cover food and accommodation costs along the route.

Security and communications should be planned for in reference to MOSS compliance. Radios, satellite phones and a support network and daily report system connecting to Khartoum and Juba should be implemented. UXO/mines are prevalent along much of the route through South Sudan. All members of any convoy should have completed advanced security in the field prior to departure. A security meeting should be held for all members before departure to review communications and current security concerns.

### **Routing Planning and Navigation:**

UNJLC has up to date road maps for Sudan available at <http://www.unjlc.org/sudan/maps>. Additional commercial maps are advisable as place names are variable. A compass and GPS unit should be carried by the designated convoy navigator. Kordofan is a large, featureless and inhospitable desert and advanced planning should include orienteering contingencies as some roads degrade into cattle tracks which further degrade into desert. Kordofan, Abyei, and Bahr El Ghazal are the least documented roads along the route and constitute the leg where these considerations should be paid specially close attention to.

The initial leg of Khartoum to El Obeid is well traveled and should pose no planning difficulties.

Between El Obeid and Wau, there are multiple possible routes which may be chosen.

- 1) El Obeid – Meiram – Aweil – Wau [Western Kordofan & Northern Bahr El Ghazal States]
- 2) El Obeid – Kadugli – Abyei – Wau [Abyei & Warrab States]

The route from Wau to Juba via Rumbek is again, well traveled and should pose no planning difficulties. At the time of the UNJLC convoy, there were two main issues for this southern leg:

- The wet ford river crossing at Mvolo was possible, but had the water been higher, routing would have to have been diverted between Rumbek and Juba via Yei, adding an extra day of driving.
- Mine/UXO clearance between Mundri and Juba is only completed to 8 meters and safety precautions should be taken along this stretch (limiting vehicles to the central road track and not stopping for breaks in driving).

The larger the number of vehicles included in any convoy, the slower convoy movement will become on a regular basis. Convoy driving is significantly different than normal driving and drivers should have training in advance of how to move with safe distance and under instruction. This should be taken into account when planning daily progress which should also allow for breakdowns and delays.

### Daily Progression of UNJLC Convoy:

#### Day 1 - Khartoum to El-Obeid via Kosti:

- This section of the road is a tarmac road and well known.
- Travel time was 7 hours due to the steady speed possible on the highway.
- Fuelling stations were frequent and there was no problem filling up all vehicles upon arrival in El Obeid.
- The UNJLC Convoy Team stayed in the WFP Guest House, although there is also commercial accommodation in El Obeid.



#### Day 2 - El-Obeid to Muglad via Al-Debeibat, Abu Zabad:

- The road to Al-Debeibat is a tarmac road. At the Al-Debeibat rail junction, the convoy turned onto a dirt/desert road that follows the rail line for some distance before turning off and rejoining one of the pipeline roads newly constructed by the Changtong company. The convoy then followed the pipeline road to El Muglad. This route is used by some commercial trucks up to 25 tonnes, but is through a remote region and is not maintained. Other commercial traffic uses the El-Obeid - Al-Nahud - Muglad route, which is faster due to better road conditions.
- The UNJLC Convoy routing for this leg was planned for road assessment and should not be followed precisely for future convoys.
- There is fuel in Muglad, but only from barrels and it is of suspect quality.
- Accommodation in Muglad is scarce. The UNJLC Convoy was accommodated by CONCERN which had availability in their small guest house compound. Camping within the compound was required due to limited bed space. There are no hotels in Muglad of any sort.



Day 3- Muglad to Aweil via Meiram, Warawar:

- The road from Muglad was initially gravel and sand.
- There is a new road from Meiram to Aweil constructed of compacted Murrum and local soil. Larger trucks and double trailers up to 60 tonnes are using this route to access Aweil. The Eyat Construction Company is rehabilitating many roads in the area and is based out of Warawar. However, this does not increase the likelihood that this route will be passable in the rainy season.
- Before entering Aweil, traffic must cross the Lol River which is impassable in the rainy season due to high water and flooding.
- There is fuel in Meiram, but only from barrels and it is of suspect quality. A commercial fuel depot is under construction. The UNJLC Convoy used reserve fuel for this leg. There is fuel in Aweil, also in barrels of unknown quality. The UNJLC Convoy made arrangements for purchase of diesel fuel from the UNMIS fuel depot adjacent to the airstrip.
- The accommodation in Aweil is limited. OCHA has tent style accommodation, but this is limited to their Aweil-based staff. Camping equipment was again required for sleeping arrangements within the OCHA compound. UNMIS has limited accommodation, but is also restricted to their Aweil-based staff.



Day 4- A weil to Wau via Alok:

- This road is one of the least maintained in Southern Sudan. Three bridges here have collapsed and the crossing at Alok is impassable in the rainy season. The route crosses the derelict rail line to Wau numerous times which may pose a Mine/UXO hazard according to locals, but this information has not been confirmed by UNMAO.
- Fuel is not available along the traversed route at any point. Wau has commercial fuel available in barrels of suspect quality. A commercial fuel depot is under construction.
- Accommodation in Wau is available at WFP, UNICEF, and UNMIS if booked in advance. There are also two commercial hotels in Wau. The UNJLC Convoy was accommodated at low cost by UNMIS and WFP.



Day 5- Wau to Rumbek via Tonj:

- The road is of compacted dirt, recently rehabilitated by WFP. This does not imply passability in the rainy season as even the newly rehabilitated dirt roads quickly degrade under traffic weight by June. The road from Wau to Tonj is only de-mined to 8 meters and precautions should be taken accordingly.
- At the date of UNJLC Convoy travel, Rumbek was experiencing a fuel shortage due to the breakage of the Kenyan pipeline. Commercial fuel in Rumbek was being sold at the price of \$1.60 USD per liter. The UNJLC Convoy purchased fuel from WFP reserves.
- Accommodation is available at the WFP Compound and AFEX Compound, both adjacent to the airfield but with limited capacity.



Day 6- Rumbek to Juba via Mvolo, Mundri and Rokon:

- The road is of compacted dirt, recently rehabilitated by WFP. The road between Rokon and Juba is only de-mined to 8 meters. Appropriate precautions should be taken. Of note are the various derelict bridges which have not been rehabilitated at the time of writing and in particular the wet ford crossing at Mvolo which is impassable in the rainy season.
- Fuel is widely available in Juba through commercial or UN sources.
- Accommodation in Juba is also widely available through numerous commercial accommodation camps. The UNJLC Convoy lodged in their respective agencies' accommodation after arrival at the OCHA-AFEX compound.

**Conclusions:**

- The UNJLC Convoy between Khartoum and Juba was a success. Traveling in the dry season confirmed that rainy season passage is not feasible at this time and established the limitations on fuel, accommodation, food and water, and that road conditions that will have to be addressed to allow for greater overland operations by the UN, NGOs and wider humanitarian community.
- UNJLC, IOM and UNDSS successfully completed their respective evaluations of road conditions, rehabilitation, mapping, returnee-route feasibility and security.
- Experienced field staff must ensure responsible handling of the various issues outlined above. Convoys should not underestimate the importance of staffing with skilled and experienced drivers, planners and participants to ensure the safety and success of convoys through Sudan.
- Advanced planning is key and accommodation and fuel arrangements should, when possible, be made in advance with the field offices in each stopover town.
- MOSS compliancy and Mine Awareness should be followed to the letter without exception.

For further information on the UNJLC Convoy, north-south passage, humanitarian logistics and road conditions in Sudan, consult the UNJLC website <http://www.unjlc.org/sudan/> or contact UNJLC offices in Khartoum or Juba.

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