

## Sudan - Fuel Report 2006

Document type:	Other
Publication date:	2007-06-15
Revision date:	2007-06-15
Countries:	Sudan
Activities:	Sudan 2006 (Cluster Operation)
Source:	Logistics Cluster
Document link:	<a href="https://logcluster.org/en/documents/sudan-fuel-report-2006">https://logcluster.org/en/documents/sudan-fuel-report-2006</a>

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### Summary

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#### Content

United Nations operations in Sudan over the next three to five years will require fuels supplies in excess of those available through Sudan's domestic refining industry. For the foreseeable future, supplies will continue to be supplemented by imports through Port Sudan and, for Southern Sudan, through the increasingly fragile supply chain from Mombasa.

To its credit and in accordance with a key recommendation of UNJLC's North Sudan 2004 fuels survey, the UN peacekeeping mission (now the largest user of fuels in the UN family within Sudan since a massive reduction in aviation fuels usage by WFP) is importing all its fuel requirements, thus avoiding distortion of the local market or damage to the prospects for sustainable growth after the expected departure of the mission in the first half of the next decade. In the meantime, opportunities exist for the UN as a whole to adopt a far more effective and economical approach to fuels through a common services approach with a unified fuels contract.

Opportunities also exist for improving the pace of economic development in Southern Sudan through facilitating greater participation of the private sector in co-operation with the Government of Southern Sudan, in the development of the local fuels infrastructure.

## Addendum: Latest Developments Severe Fuel Shortage in Juba and Throughout East Africa

In the period between the preparation and publication of this report, developments in countries neighbouring Southern Sudan have illustrated starkly the fragility of the Southern corridor, the inadequacy of fuels storage (and hence the extent of buffer stocks to deal with a supply disruption) and the fact that the limited barge offloading capacity in Southern Sudanese Nile River ports precludes reliable supply of fuels from the north by barge.

In the fortnight ending April 28th, 2006, fuel shortages emerged throughout the Great Lakes region from Kenya through to Uganda, Rwanda, Burundi, eastern Democratic Republic of Congo and Southern Sudan. On April th, 2006, it was reported that the fuel station in Juba was out of fuel. Certain UN agencies ran out of supplies, in part because of a management issue within these agencies. Nevertheless, were supplies more available, this could have been dealt with swiftly. The fuel shortage may affect humanitarian operations and could have serious security implications.

In Nairobi on the last weekend in April, service stations were out of petrol and had very little diesel. Reports indicate that there was even less fuel in Kenya north of Nairobi and on the Indian Ocean coast. The entire Shell network was understood to be out of fuel. Lokichoggio was very short of fuel.

The root cause of the crisis appears to lie with Mombasa Port and the Kenyan Government enforcing a law obliging all re-export fuel (i.e. that used in Southern Sudan and Uganda) to be moved by the Kenya pipeline and not by road. It appears that an estimated 40% of fuel ostensibly destined for re-export (and thus being tax exempt) was finding its way back into the domestic Kenyan market. This, of course, adversely affects the Kenya Treasury. With the capacity of the pipeline being barely sufficient to meet the needs of Nairobi (if that), supply beyond Nairobi has, in effect, dried up. The fuel handling facilities at Mombasa cannot process fuel imports quickly enough, with the result that ships carrying fuels are waiting at anchor, incurring demurrage.

The situation has been exacerbated by the greater demand caused by power supply problems in Uganda. Falling water levels in Lake Victoria have reduced the country's hydroelectric power output, forcing Uganda to rely on power generation using petroleum products, all of which must be imported through Kenya. Despite large buffer stocks of fuels, reports indicate that fuels prices in Kampala and other parts of Uganda are rising in anticipation of shortages. Rwanda has recently commissioned a new power station, placing further strain on the system.

Increased use of generators in Kenya to compensate for the unreliable mains power supply and lesser hydroelectric output, caused in part by the drought which has affected the Horn of Africa, has also added to demand.

The problem could be eased partially by oil traders moving fuel on Kenya Railways but most firms are reluctant to use this as it is too slow and troublesome. The capacity is, in any event, limited. Fuel could also be flown in, but this is expensive.

Transport capacity will be severely reduced by the effect of the rains, placing much greater reliance on the relatively small fleet of 6x6 and 8x8 trucks in the supply chain

A further issue is drums as discussed in Section 5 of this report. The supply of drums in Kenya is now extremely limited following the closure of the country's main manufacturer. This leaves the sole major source of drums as Port Sudan, far removed from imported bulk supplies in Mombasa.

Improved advance planning and more solid contracting on the part of the UN could have helped to avoid such situations. An announcement by UNMIS about the long-term fuel contract – first tendered more than six months ago – would have triggered the investment necessary to install sufficient storage to provide a buffer for such crises. So too would contracting by the humanitarian agencies with terms that encouraged suppliers to provide storage. Without decisive action by the UN in the coming weeks and action by the Government of Southern Sudan to clarify land issues necessary for fuels installations, the situation will only deteriorate further. The private sector will not make the long-term investments needed to build the supply chain without indications that they

will be paid.

## Executive Summary

**UPSTREAM:** Over the past two years, Sudan has continued the remarkable development of its upstream oil industry, providing plentiful sources for refining into usable fuels. Crude oil production by 2007 – mostly destined for export - is expected to near **one million barrels per day** (bpd), equivalent to important mid-level OPEC producers such as Algeria. This is a notable given that first major oil exports occurred less than seven years ago. Prior to that, production was in the tens of thousands of barrels per day. This achievement rests not only on successful exploration but on three main crude oil pipelines from inland oilfields to newly-expanded Red Sea export terminals.

The gradual implementation over the past year of the December 2004 Comprehensive Peace Agreement between the North's National Congress Party and the South's SPLM/A has helped open up long-delayed oil exploration in geologically promising Southern Sudan. Further new exploration is also taking place in the west and north. Discoveries and developments in these areas may well add to the country's production and allow greatly improved fuels availability, combined with improved fuels transportation infrastructure. However, given the lead time required to find, prove, develop and exploit oil reserves, substantial new **production from these areas cannot be expected for at least the next five to ten years.**

**DOWNSTREAM:** Development of Sudan's downstream sector – refining – has not paralleled that of crude oil production. It cannot yet meet the burgeoning increasing in demand, especially for diesel and for aviation fuel. The growth in demand for diesel alone in 2005 is estimated at about 30%.

About 90% of the country's 100,000bpd refining capacity at the time of writing is concentrated in one refinery, at Khartoum. Although the capacity of this main refinery was successfully increased in 2005 by a relatively modest amount and is expected to further increase in the second half of this year with the start up of a new cracker unit (originally scheduled for November 2005 but delayed), the next major increase in national refining capacity is not scheduled for another three years, when the new Port Sudan refinery should be commissioned.

**SUPPLY GAP:** Sudan presently refines more gasoline than it needs and exports this surplus, but it will continue to need to import diesel and aviation fuel for the foreseeable future to bridge the gap between local supply and demand. The diesel market in particular is distorted by heavy demand from fuel-hungry gas turbine power stations. These plants are bearing a disproportionate amount of the electrical base load whilst much-needed and more efficient thermal and hydroelectric power capacity is under construction. Furthermore, economic growth is being constrained by limited diesel supplies. Demand for diesel should slacken temporarily when the new cracker unit opens mid-2006 at Khartoum's Gaili refinery then again when a major new hydroelectric plant is commissioned in late 2007. However, it will soon be taken again up by the requirements of growth and development. The consensus among several leading fuel supply companies in Sudan is that imports will continue for as long as economic growth is limited by a lack of fuels, whilst refining capacity catches up with demand. Local supply and demand is unlikely to be in balance before the end of the decade.

**THE SUBSIDY:** The Government of Sudan is presently subsidising the Khartoum Gaili Refinery and imports to ensure a lower-than-market price for all hydrocarbon fuels. It is understood that this cost amounts to about US\$1bn annually. This is unsustainable and the subsidy and is likely to be withdrawn, perhaps in a phased

manner, in the near to medium term. This may result in a **25% increase** in fuels prices **affecting in turn affect not only growth but the cost of the UN humanitarian community's operations with substantial increases in transport costs.**

**THE DARFURS:** In the past two years, the supply chain to the Darfurs has developed to a point where, absent a major supply disruption, there are few supply concerns due to the reduction of the aviation fuels requirement by WFP. There is even sufficient storage in place to deal with planned events such as a maintenance shutdown of the Khartoum Refinery. Much of this development has been the result of private sector investment in storage and transport. Fuels logistics into and within the Darfurs are generally sufficient to meet the current needs of UNMIS, the humanitarian community, the African Union forces, and the new requirements of oil exploration activities, now commencing in Northern Darfur.

The only foreseeable events which may strain fuels logistics in the Darfurs are increased Government use in the region in response to international developments or the deployment of UN peacekeepers in support of or superseding the African Union. The former could occur at any time; the latter is unlikely before early 2007.

**SOUTHERN SUDAN - SUPPLY:** Supply into Southern Sudan through the traditional Kenya-Uganda corridor is slowing down as the Kenya pipeline continues to experience operational and capacity problems, and as the bottleneck at Eldoret, a major transfer point in Kenya en route to Uganda, worsens. Waiting time at Eldoret for diesel cargos is five to six days; for aviation fuel it is three to four days. This could be reduced with additional storage. A key cause of the delay is that the existing system cannot issue and receive stocks concurrently. After receiving stock, there is a delay whilst the product settles, is tested, batched and certified for use. It has been suggested to the Kenyan authorities that a **private finance initiative**, jointly with the main consumers of the fuels, could be used to alleviate the storage problem and bottleneck to the mutual benefit of all.

Import storage capacity problems which emerged recently for the first time at Mombasa have now been solved but could recur, thus holding back further development in Rwanda, Burundi, Uganda, eastern DRC and, to a lesser extent, Southern Sudan, even if the pipeline and storage issues are solved.

The capital of this region, **Juba**, is developing rapidly and the private sector is reacting to this. One service station, providing ground fuels, has been open for some time, supported by a previously disused depot that has been reclaimed and cleaned. Three further stations are due to be operational no later than May. The retail price at the pump is about **US\$1.20** per litre. This price is likely to prevail until at least early next year, after which competitive pressures will probably force a slow reduction. **Rumbek** already has bulk fuel installations and an oil company operating out of **Bor**, about 120km north of Juba on the River Nile, may build a station in the town. Construction of a new commercial fuel depot for Jet A-1 and diesel has commenced at **Wau**. However, supplies in the region remain overly dependent on the fragile route from Mombasa.

Humanitarian agencies in Southern Sudan will experience fuel shortages this rainy season unless adequate preparations are made and supply arrangements put in place, if not already done so.

**NILE BARGES AND FUELS:** The key to the development of many parts of Southern Sudan is Nile River barges. With the lack of road and rail links between north and south, and the cost and difficulty of building good all-weather roads over the next few years, barges could allow cheaper, reliable fuel supplies from Northern Sudan and less reliance on the Kenya-Uganda route. However, development of the barge fleet and the required facilities has been very slow. For example, the barge port in Juba remains rudimentary. Unloading is inefficient, slow and

hazardous from both safety and environmental perspectives. A much-touted US\$70mn two-year development of the port by Kuwaiti investors seems to be on hold with no clear timelines or may even have collapsed entirely, with no new initiative on the horizon. **It could well be two to three years before Nile barges are an effective means of adequate supply unless substantial investment is pushed into development now.**

To address the issue of unloading fuels at Juba, we have actively engaged private sector companies present in Southern Sudan with the Government of Southern Sudan (GoSS) Minister of Industry and Minerals (whose portfolio includes oil and fuels) to ascertain whether there were any plans to address this bottleneck. There appears to be none. A short-term solution was proposed and a site located north of Juba International Airport on the main Nile waterway where two large offloading pumps could be installed. These could draw fuel off moored barges and pump it through a pipeline to large storage tanks near the town. A joint venture between the GoSS and private sector would be the most expedient way to ensure diesel fuel supplies from the North (and less reliance on more expensive fuels from Kenya) until a more permanent solution is found and a proper port built.

We noted that two commercial companies are preparing to build temporary storage facilities before the rains set in. The private sector is the only player who can effectively address the challenges of barges, ports and storage. Increased co-operation between the GoSS and the private sector should be strongly encouraged.

**SOUTHERN SUDAN REFINING:** It is understood that the GoSS may be planning to establish their own refinery under a joint venture with an international or foreign national oil company, using as feedstock crude oil from current or future oilfields in Southern Sudan.

The location for this refinery will be critical. The main market for such a plant will not be the relatively limited local needs but Uganda, Rwanda, Burundi, eastern DRC and north and western Kenya. A refinery in Southern Sudan to supply these areas makes strategic sense. The Khartoum Refinery will continue to be dedicated to meeting the needs of the north, the new Port Sudan refinery is designed as an added value export plant, and the Kenya Refinery at Mombasa is only able to meet part of Kenya's own needs. **In effect, fuel from this refinery could replace that which is presently imported through Mombasa and then re-exported.**

However, such a development of a refinery with about 100,000 to 200,000bpd capacity could require an investment of about US\$3bn to US\$4bn and several years to implement. The GoSS in the interim could consider using small refinery units known as "skimmers", located near the oilfields. These could supply the localised fuel needs. They are available, relatively cheap and can confer a degree of fuel independence desirable for the South.

**THE UN AND A UNIFIED FUELS CONTRACT:** The most contentious issue the mission had to consider is what has become known as the **Unified Long-Term Fuels Contract**. At time of writing, this has been tendered but not let. The contract represents a unique opportunity for the UN to move towards a more unified, integrated and ultimately more globally cost-effective approach to common services.

An attempt to combine the needs of both UNMIS (UN Mission in Sudan) and the UN humanitarian agencies through what became known as the **Short-Term Fuels Contract** has encountered difficulties. Reservations were expressed by potential participating parties at the bureaucracy and uncertainty involved in the contract, the sharing of certain costs not directly related to the provision of fuels, and the fact that fuels supplied under that contract could cost significantly more than the price at commercial service stations in key locations. Negotiations are still ongoing for the appropriate terms and conditions for a Memorandum of Understanding between the agencies and UNMIS to allow the agencies to obtain fuel through this contract.

Fuels will continue to be an issue in Southern Sudan for at least the next 18 months. UNMIS is expected to be the largest user of fuels and provision has been made in the contract's Scope-of-Works to include the humanitarian agencies under its umbrella. However, as with the short-term fuels contract, UNMIS has some costs they have to pay regardless of whether the agencies join and which they may ask the agencies to subsidise. A practical way to ensure that the cost per litre does not exceed the prevailing commercial price (as with the short-term fuels contract) should be found, even if UNMIS foregoes partial recovery of such fixed charges.

This issue should be examined comprehensively with consideration given to the real costs and whom, in the end, actually pays the bill. The UN as a whole risks creating an internal market, adding to the cost with each transaction. This will inevitably result in the UN – peacekeepers and humanitarians combined - paying more than it should. Fuels are a common commodity that all agencies – political, developmental, peacekeeping and humanitarian – require. If each agency setting up their own supply system, the ultimate losers are donors and member states. The onus is upon senior UN management to collectively resolve these issues.

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