



**Greater Upper Nile, Southern Sudan:  
Immediate Health Needs Remain amid a Precarious Peace  
March 2008**



**“Since 2005, we have not seen any changes. There is no development. The only thing is that there is no bombing in the country. We don’t know what happened to the peace, we don’t see a difference.”** Woman, 40, southern Sudan, (Nov 2007)

More than three years after the signing of the Comprehensive Peace Agreement (CPA) in January 2005, medical needs remain critical, and simmering tensions create a precarious security situation. This report focuses on the areas of Greater Upper Nile, including Unity, northern Jonglei and Upper Nile States. Although extrapolations to other areas must be done with caution, the health situation in Greater Upper Nile can be considered representative of many of the war-devastated communities in southern Sudan.

It is impossible to apply conventional notions of “post-conflict” to southern Sudan, which in many ways is starting from scratch. Before the war, the region had a severe lack of general infrastructure and health systems, and decades of conflict destroyed what little existed. Today, there are few roads, a crippling absence of healthcare staff and health structures, and limited investment from the government.

The end of the war did lead to a degree of stability that has enabled many refugees and internally displaced people (IDP) to return to their homes and begin rebuilding their lives. But this political stability is fragile as the root causes of the war are still unresolved. Significant tensions remain and the threat of conflict reigniting is a real concern, particularly in relation to the contested border areas (including Abyei and the oil fields of Unity and Upper Nile States) as well as disputes over shares in oil revenues, redeployment of troops and resources for the pending census.

Since the end of the fighting there has been modest development in the region, including the establishment of the Ministry of Health (MoH) in June 2006. But a viable health system for southern Sudan’s estimated 8 million people will take years and significant investment, while acute health needs will still need to be met. In Greater Upper Nile, Médecins Sans Frontières (MSF) senses a diminishing interest from international donor governments and institutions in relief programming and a slow release of longer-term development funds, all of which hampers the maintenance and development of the poor existing health structures. The remaining emergency medical organizations therefore are shouldering an impossible burden trying to meet basic health needs.

Today, MSF health facilities in Greater Upper Nile are functioning at maximum capacity. As international agencies and the MoH are slow to set up development health programmes, MSF is struggling to maintain its primary health care services while reinforcing secondary care and its emergency outbreak response. People continue to die from preventable diseases or curable conditions because of the shortage of clinics, trained medical staff and medicines. Diseases like tuberculosis (TB), malaria, and visceral leishmaniasis (kala azar) continue to take a heavy toll. Outbreaks of meningitis, measles,

and cholera are all too common, and maternal mortality rates are among the highest in the world, the result of years of war and no development.

In Greater Upper Nile, as elsewhere in southern Sudan, it is clear that there will need to be sustained funding for both emergency aid and development assistance in the health sector. MSF urges international and national organizations, government authorities, and international donor agencies to commit the necessary financial and human resources to emergency aid operations in southern Sudan, prioritizing practical interventions with measurable health outcomes (like providing artesimin-based combination therapy (ACT) for treating malaria and ready-to-use foods (RUF) for treating malnutrition.) Without focused commitment and sustained efforts, the peace declared in January 2005 will be an empty promise and will hold little meaning for people emerging from decades of a devastating conflict.

MSF has been providing emergency medical assistance in southern Sudan for over 20 years.

**MSF in Greater Upper Nile** (as of the end of 2007)

Médecins Sans Frontières (MSF) has been working in southern Sudan since 1987, providing medical care to people throughout the conflict and since the signing of the CPA.

MSF currently runs projects in three states of Greater Upper Nile: in Unity State (Leer, Tham, Koch), Jonglei State (Pieri, Lankien, Yuai, Pathai, Pultruk, Riang) and Upper Nile State (Nasir, Wudier, Longochok, Beneshowa, Ulang).

MSF operates one hospital, three Primary Health Care Centres, nine Primary Health Care Units and one clinic devoted to treating kala azar and malaria. Programmes respond to the population's most acute outpatient and inpatient health needs: maternity, surgery, therapeutic feeding, tuberculosis, kala azar and HIV/AIDS.

With 44 international aid workers, 7 regional staff and 622 national staff, MSF's 2008 budget for programmes in the Greater Upper Nile is just under 8 million Euros.

**Common diseases and recurring epidemics**

The improved security since the signing of the CPA has meant greater freedom of movement for the population, even though roads and other travel infrastructure remain in terrible conditions. The result is that the small numbers of health facilities that exist are forced to cope with an increasingly unmanageable number of consultations until access to health facilities improves.

In 2007, 70% of MSF's consultations for children under five years of age in Greater Upper Nile were for malaria, respiratory tract infections and diarrhoea (from a target population of 480,000, of whom approximately 81,000 are children under five). In 2007, MSF also treated 3,698 children with severe pneumonia. The limited access to clean water only exacerbates the toll from common diseases, and between June and November

2007, the MSF outpatient department in Lankien treated over 3,300 patients for diarrhoea, eye and skin infections, and hepatitis A and E.

Malaria is especially problematic between July and November, at the peak of the rainy season. In 2007, MSF treated almost 12,000 patients (36% <5) with malaria. Priority must be given to the use of rapid diagnostics and the provision of effective treatment like artesimin-based combination therapies (ACTs) to respond to these seasonal peaks. In addition, prevention strategies such as distribution of long lasting insecticide impregnated nets are needed.

The absence of a comprehensive health monitoring system makes it nearly impossible to collect and analyse data throughout southern Sudan. It is clear, however, that Greater Upper Nile experiences regular outbreaks of measles, meningitis, and cholera. Between January 2006 and September 2007 MSF responded to six cholera outbreaks in Malakal, Nasir, Leer and Lankien treating 1,356 patients and three measles outbreaks in Tam, Nyriol, and Wuror counties treating 1,350 patients and vaccinating 25,000 children through seven different campaigns. MSF also responded to meningitis in Yuai and Wuror counties, treating 150 patients and vaccinating 11,000 in two vaccination campaigns.

Since 2005, the southern Sudan Ministry of Health (MoH), in collaboration with the World Health Organisation (WHO) and UNICEF, launched several immunization campaigns, including: a mass measles immunization targeting 4.5 million children in November 2005, ongoing polio vaccination for the region, and meningitis vaccination campaigns in response to outbreaks. However, measles-vaccination coverage is nowhere near the 90% needed for effective community-wide immunity, in order to reduce the risk of new outbreaks. Current coverage rates are quoted as 11.8% in Jonglei State, 28.5% in Upper Nile State, and 23.5% in Unity State.<sup>1</sup>

### **High levels of malnutrition**

A nutritional survey in September 2007 in Nyriol County (northern Jonglei State)<sup>2</sup> indicated a Global Acute Malnutrition (GAM) of over 17% and a Crude Mortality Rate (CMR) of 1.24/10,000/day – both above the emergency threshold levels defined by the World Health Organisation. When a similar rate was detected in the Darfur region, the United Nations raised several alarms.<sup>3</sup> Unfortunately, the rates found in southern Sudan caused little outcry.

In 2007, nearly 1,800 children were admitted to the MSF therapeutic feeding centre (TFC) for malnutrition in Greater Upper Nile. Malnutrition rates follow seasonal patterns, but MSF is seeing acute malnutrition even during the months following harvest (September to November). Routine nutritional screening of children under five seeking medical care showed high

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<sup>1</sup> 1 MoH/GoS, Sudan Household Survey, 2006, Proportion of children 12-23 months of age receiving BCG, DPT1-3, OPV1-3, and measles vaccinations at any time up to the date of the survey.

<sup>2</sup> AAH-US, 09/07

<sup>3</sup> United Nations, Malnutrition in Darfur reaching emergency levels, 1st September 2007 ([http://uk.reuters.com/article/homepageCrisis/idUKN31437636.\\_CH\\_.242020070901](http://uk.reuters.com/article/homepageCrisis/idUKN31437636._CH_.242020070901))

severe malnutrition rates<sup>4</sup>: 2.3% in Nasir, 2.3% in Leer, 3.8% in Lankien and 4.1% in Pieri. An improved level of access to health care services, a trend that must be encouraged to continue, may explain these data.

Diarrhoea, pneumonia, malaria and measles have a significant impact on the nutritional status of children, as does the lack of a diverse diet for weaning-age children. In order to dramatically scale up the number of children who can be reached, programmes addressing childhood malnutrition should focus resources on community-based outpatient treatment with ready-to-use foods (RUF).

A general lack of food in the region is another concern. Floods have destroyed parts of the current and previous harvests, and fields lie fallow because of the presence of unexploded ordinances, further decreasing food availability in the area. The return of IDPs and refugees following the peace agreement has also increased the pressure on already-scarce food stocks. Food prices in the market have risen noticeably, threatening to deteriorate this situation further.

### **Tuberculosis (TB) and visceral leishmaniasis (kala azar)**

Tuberculosis (TB) is one of the leading causes of death in southern Sudan, particularly among adults between 20-45 years of age. The current incidence of TB in southern Sudan is estimated at 325/100,000/year.<sup>5</sup> The incidence and prevalence rates are likely to be much higher in the nomadic population of the Greater Upper Nile area. Approximately 75% of the cases are pulmonary TB, but the high rate of extra-pulmonary TB, such as spinal and lymph node TB is also a growing problem. With proper treatment, though, the majority of TB deaths can be prevented.

MSF is currently running three TB programmes in northern Jonglei state (Pieri and Lankien) and Upper Nile state (Nasir).<sup>6</sup> In 2006 and 2007, MSF treated 840 TB patients. The TB programmes in Pieri, Nasir and Lankien had an average of 70 patients under care at any one time. In order to ensure the success of the intensive 6-9 month treatment course, MSF has set up “TB villages.” Women often bring their children with them and the youngest of these are put on prophylaxis where appropriate to ensure they do not get infected.

A large number of the TB patients MSF treated were severely ill at their first consultation – some were barely able to walk due to weakness and others had paralysis from spinal TB. Such late presentations usually indicates that only the worst cases find their way to our clinics and that more patients remain in their villages without treatment.

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<sup>4</sup> Weight-for-Height below 70% of the median. South Sudan Multi Donor Trust Fund - Final Project Proposal (FPP) - South Sudan Umbrella Programme for Health System Development, 8 February 2006.

<sup>5</sup> South Sudan Multi Donor Trust Fund - Final Project Proposal (FPP) - South Sudan Umbrella Programme for Health System Development, 8 February 2006.

<sup>6</sup> In June 2007, MSF stopped the admission in the TB programme in Leer (Unity State). New TB patients from Unity State are currently referred to the TB programme in Pieri for treatment.

In 2006 and 2007, MSF treated 1,450 kala azar patients. MSF estimates that approximately 50% of people with acute kala azar do not reach health facilities.<sup>7</sup> While the number of kala azar patients treated by MSF is at a historic low, based on 5-10 year outbreak cycles, there is a possibility for a surge in the coming years. A series of seven surveys carried out by MSF between 1990 and 1994 estimated that at least 100,000 people died during a kala azar epidemic in western Upper Nile – at least one third of the population in the area – highlighting the need to make diagnosing and treating kala azar a priority.<sup>8</sup>

### **Maternal mortality rates among highest in world**

Maternal mortality in southern Sudan is one of the highest in the world – with 2,053 maternal deaths for 100,000 live births. This rate is four times higher than for northern Sudan, where maternal mortality is estimated at 512/100,000 live births, twice as high as the Darfur region with 994/100,000 live births<sup>9</sup>, and 300 times higher than the Netherlands with 7/100,000. Since 2006, MSF has been running Ante-Natal Care (ANC) programmes. In 2007, MSF saw 6,800 women for ANC compared to 2,500 in 2006. The number of deliveries in MSF facilities also increased from 73 in 2006 to 268 in 2007. In order to improve maternal and child health, MSF also started Post-Natal Care (PNC) consultations at the beginning of 2007.

Late presentation and lack of emergency obstetric care add to this high maternal mortality. Women tend to deliver at home and only seek medical help if a problem arises. Unfortunately, by the time most women arrive at a clinic, the delivery is often extremely complicated and this late presentation too often results in the loss of life for the mother and child. In 2007 in Leer Hospital, more than 15% of the deliveries with protracted labour required a caesarean section. Difficult deliveries have left some women with Vesico (or recto)-Vaginal Fistulas (VVF). In 2007, MSF helped 15 women get VVF surgery in Nairobi, Kenya and at a programme coordinated by African Medical and Research Foundation (AMREF) near Rumbek.

### **Sporadic violence disrupts health care services**

The current level of violence in Greater Upper Nile is in no way comparable to the scale and magnitude of conflict before the signing of the CPA. Nevertheless, sporadic instability puts aid agencies at risk and curtails the activities of health agencies. More

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<sup>7</sup> For more detailed information on kala azar in southern Sudan, see Unseen Kala-azar deaths in south Sudan (1999-2002), Tropical medicine and international health, volume II No 4 pp. 506-512, April 2006

<sup>8</sup> J, Seaman, A.J.Mercer, and E. Sondorp, “The Epidemic of Visceral Leishmaniasis in Western Upper Nile, Southern Sudan: Course and Impact from 1984 to 1994”, in International Journal of Epidemiology, Vol. 25, No.4.

<sup>9</sup> MoH/GoS, Sudan Household Survey, 2006.

Maternal Mortality Ratio for southern Sudan (per 100,000 live births): Jonglei (1,860.9); Upper Nile (2,094.2); Unity (1,731.6); Warap (2,173); North Bahr El-Gazal (2,182.1); West Bahr El-Gazal (2,215.5); Lakes (2,243.4); West Equatoria (2,327.2); Central Equatoria (1,866.7) and East Equatoria (1,844.4).  
Maternal Mortality Ratio for Darfur (per 100,000 live births): North Darfur (346); West Darfur (1,056.3); South Darfur (1,580.7).

important, it impedes people from accessing vital healthcare, even when facing life-threatening conditions.

In 2007, MSF carried out 148 violence-related surgical interventions, which was more than double the 70 carried out in 2006. Moreover, MSF recorded a fourfold increase in violence-related surgical cases in the Leer area, from 19 between January-April 2007 to 75 between May-August 2007. MSF suspects that only a minority of people with violence-related injuries comes to MSF health facilities, due to the length of travel or patients' desire to hide their injuries from the authorities.

### **MSF at maximum capacity and patient numbers keep increasing**

As of the end of 2007 in Greater Upper Nile, MSF implemented programmes in one hospital and three primary health care centers (PHCC)<sup>10</sup>, nine primary health care units (PHCU)<sup>11</sup> and a clinic devoted to treating kala azar and malaria.<sup>12</sup> Between 2005 and 2007, MSF saw 360,000 patients in its outpatient services, with a 17% increase from 2006 to 2007.<sup>13</sup>

MSF also hospitalised more than 7,500 patients over the 3-year period, and saw an increase of 80% in 2007. During outbreaks of disease MSF teams maintain regular services in clinics while scaling up its emergency response.

This increase in patient numbers has many reasons, but is partially explained by the fact that people can travel more freely since the war ended and many people who fled during the conflict have returned to their homes. In the three states where MSF works the United Nations High Commission for Refugees (UNHCR) and the International Organisation for Migration (IOM) registered the organized return of 13,851 refugees and 11,887 IDPs and estimates that many others spontaneously returned between 2006 and 2007. In total, 1.2 million people are reported to have returned to southern Sudan with only 200,000 (16%) formally assisted.<sup>14</sup>

### **Limited number of health structures and poor infrastructure**

Health facilities are scarce and when people seek treatment, they often have to travel long distances in areas with few paved roads. At times people have to walk days through grassland and swamps to reach trained health workers, and these delays often turn minor diseases into serious, life threatening conditions.

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<sup>10</sup> MSF-run Hospital: Nasir (Upper Nile State) MSF-run PHCC: Pieri and Lankien (Jonglei State) and Leer (Unity State).

<sup>11</sup> MSF-run PHCU: Tam and Koch (Unity State), Pathai, Riag, Pultruk and Yuai (Jonglei State) and Longochok, Beneshoa, Wudier and Ulang (malaria and kala azar clinic) (Upper Nile State).

<sup>12</sup> PHCUs are simple health posts staffed by health workers with basic knowledge. Maternal and child services and curative care for the most common illnesses are provided in these health units. Serious cases are generally referred to PHCCs, where laboratory services are available and staffs have more training. Patients requiring further care are referred to the district hospital. In WUN, Leer hospital provided these services to the region.

<sup>13</sup> Graph "Monthly OPD consultations all sites 2006-2007": The drop of consultations in June can be explained by the seasonal pattern: it is the time for cultivation and farming, and the rainy season.

<sup>14</sup> HPG, The Long Road Home: Opportunities and obstacles to the reintegration of IDPs and refugees returning to Southern Sudan and the Three Areas, August 2007

Currently, there are only a few official Ministry of Health (MoH) structures in the areas where MSF works in Greater Upper Nile, including a MoH clinic in Ulang that has been supported by an MSF fever clinic to treat people for kala azar and malaria. There are no MoH facilities near Lankien or Pieri in Wuror or Nyriol counties (northern Jonglei State). People in need of surgical interventions or acute medical care for severe injuries or complicated deliveries face particularly life-threatening obstacles. Not only are there few surgical facilities, but often it is simply impossible to reach existing ones in time for effective treatment.

MSF teams carried out 941 major surgical interventions in 2007. In 2008, MSF moved the surgical programme from Leer to Nasir, a large village town on the banks of the Sobat River. Other surgical facilities are extremely rare<sup>15</sup> and often lack experienced staff or the necessary equipment. Emergency cases outside the immediate vicinity of the MSF clinic have to be sent by boat or plane or carried on a stretcher for kilometers. The most difficult and serious cases then need to be flown to a surgical facility, but planes are not readily available and during the rainy season, it is often impossible to land on the waterlogged airstrips.

### **Chronic shortage of skilled health personnel**

The shortage of skilled healthcare personnel has been a major block in the provision of adequate healthcare. Formal education levels are very low as a result of the limited availability of schooling and the disruption caused by decades of war. Many of the Sudanese medical personnel who work with MSF received their entire training from international MSF aid workers or through courses run by other NGOs.

Options for medical training in southern Sudan are limited. There are only three teaching hospitals (Juba, Wau and Malakal) in southern Sudan, which can only provide practical training. The medical personnel who deliver the trainings are already overstretched, as they try to juggle their existing hospital duties to their own patients. Only the training programmes run by the African Medical and Research Foundation (AMREF) and the International Rescue Committee (IRC) have been officially recognized.

The length of time it takes to finish medical studies combined with the acute shortage of available training facilities and health care trainers means that it will be many years before there are enough medical staff to meet the basic healthcare needs of the people of southern Sudan.

### **Continued emergency health care is still needed**

Sustained financial commitment to short- and long-term health services is essential for meeting the health needs of the people in Greater Upper Nile and throughout southern Sudan. But donors have started transferring funds away from emergency to development projects, even though significant health needs remain.

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<sup>15</sup> ICRC Lopiding referral hospital (Kenya) closed at the end of June 2006. Some other referral possibilities exist in southern Sudan, such as the MSF hospital in Bor or the MoH hospital in Malakal



Emergency donors, such as the UK Department for International Development (DFID) and the US Office for Foreign Disaster Assistance (OFDA), are reducing their presence and transferring their funding to development, thereby significantly cutting the resources devoted to responding to pressing health needs. In 2007, the United Nations recognized a funding gap of \$1.8 million USD to sustain existing health services until the end of 2007, and stated that another \$3.7 million USD would be needed to keep health services going for the first three months of 2008. According to an assessment made by the World Health Organisation, this funding gap will drastically reduce care in 61 PHCUs, 30 PHCCs, 2 hospitals, 8 specialised units and 8 outreach services.<sup>16</sup>

While funds are shifted to development projects through the Multi-Donor Trust Fund (MDTF), it is feared that the MDTF will act merely as a top-up fund, requiring bilateral funding to fill the gaps. And despite this transfer, there are few development organisations on the ground to actually run development projects. For example, agencies have committed to be the lead health agency under the MDTF Health Umbrella programme in only 4 out of 10 states.

MSF has been working with the people of southern Sudan for the past 20 years providing assistance throughout the conflict and since the CPA was signed. MSF is maintaining most of its primary health care programmes in Greater Upper Nile and throughout the country while also trying to respond to outbreaks of disease and violence. MSF is at the limits of its capacity even as the number of patients increases.

If there is to be any real improvement in the health care situation for the people of Greater Upper Nile and throughout southern Sudan, it is vital that emergency health care programmes continue to be funded even as longer term projects begin. The Government of Southern Sudan, international donors, and local and international agencies must prioritize meeting people's immediate health needs even while addressing long-term problems. People with health needs today simply cannot wait for a time when there is a functioning health care system with enough medical facilities and sufficiently trained staff.

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<sup>16</sup> WHO, southern Sudan, Health Update, Sept-Oct 2007, page 4.