ABSTRACT - The protracted civil war in the Sudan has had an immense human and economic cost. The consequent collapse of infrastructure in the south of the country has disrupted the provision of basic health care, and primary health care schemes to eradicate trypanosomiasis and dracunculiasis have been rendered impossible. Operation Lifeline Sudan, an official United Nations umbrella organisation, has been in a unique position to provide long-term medical, agricultural, livestock, fishery and emergency food aid in both government held and rebel held areas over about the past decade.

The Sudan, Africa's largest country, roughly the size of Western Europe or nearly one-third the size of the US, is located in the north-east of the continent and is landlocked apart from a short stretch of coastline along the Red Sea. The north is arid and largely flat desert, while the south contains one of the world’s largest swamps, the Sud, into which the Nile empties on its journey from Uganda, through the Sudan to Egypt and the Mediterranean.

The Sudan has recently hit the headlines because of a famine in the south-west of the country, exacerbated by a protracted civil war that has been grinding on almost since independence from Britain in 1956. The roots of the conflict date back to colonial days when in the 'scramble for Africa', the British and the Egyptians took control of the Islamic, Arabised north. Ruling from Khartoum, they annexed the southern equatorial regions to halt territorial expansion by the French in that part of the world. These areas are populated by tall, black African, Nilotic tribes people such as the Dinka or Nuer, who are either Christian or hold traditional beliefs. These people have nothing in common with the northern Sudanese, ethnically, culturally or economically, and have resisted the recent implementation of the Sharia, or Muslim law, by the Khartoum-based government.

The civil war

The war for the independence of South Sudan has been fought by the Sudanese People’s Liberation Army (SPLA) with renewed intensity in the past decade for several reasons. First, the South has oil and mineral reserves which the government in Khartoum is understandably reluctant to relinquish. Secondly, the area could be seen as the last piece of a strategic jigsaw puzzle of potential American influence which the current Ugandan regime has attempted to set in train with sympathetic governments in Eritrea, Ethiopia, Rwanda, the Democratic Republic of the Congo (formerly Zaire) and Angola. This goal has, however, been somewhat dented because of continuing conflict in Congo and Angola, and through the border conflict between Eritrea and Ethiopia. The SPLA has been receiving moral, if not technical and military, support from some of these regimes who are fearful of a fundamentalist regime in Khartoum. The situation is further complicated because of a split in the independence movement with the formation of the South Sudanese Independence Movement (SSIM), which settled for an uneasy and temporary peace in the south-east of the country in return for a promised measure of self-determination in four years’ time. This depends on a referendum, which may well go in favour of the Khartoum government owing to elastic rules on who will be allowed to vote. However, fighting in this area has recently flared up once more.

The political situation tends to be somewhat fluid because the Khartoum government holds the important fortified garrison towns in the South, including Juba, the largest settlement, while the rebel organisations hold the countryside. In 1998, one of the major towns, Wau, fell to the SPLA, displacing an estimated 250,000 people from their homes because of the fighting, with the inevitable damage to sanitation and food supply.

The burden of disease

It was into this mêlée that I, a London-based hospital consultant, was invited as an observer by UNICEF to visit the various United Nations (UN) and non-governmental aid programmes in the rebel held areas of South Sudan. I had been to the north of the country some ten years earlier and was familiar both with the intense heat (it was 45°C when we were there in March 1998) and with the burden of disease. The latter embraces not only the largely preventable infectious diseases such as diarrhoeal complaints, measles and polio, but also chloroquine-resistant malaria and other parasitic infections such as dracunculiasis (caused by the guinea worm), onchocerciasis (river blindness), trypanosomiasis, schistosomiasis (bilharzia) and kala-azar (leishmaniasis).

The geography of the south of the country makes communications difficult, and provision of health care has been greatly hampered by the ongoing war. Furthermore, diseases such as trypanosomiasis are spreading, and World Health Organisation sponsored eradication schemes for this and for guinea worm have not been able to start because of the fighting[1,2]. Indeed, on my first visit ten years previously, it seemed at times that disease was the norm and good
health abnormal. I was keen to see whether the situation had improved or deteriorated since the famine days of the 1980s when areas of the country were affected, together with neighbouring Ethiopia.

**Operation Lifeline Sudan**

The UN aid effort to the severely underdeveloped South Sudan is coordinated through an airlift by a UN umbrella organisation, Operation Lifeline Sudan (OLS), which historically has been run through or alongside UNICEF. It is a unique programme in that it embraces the efforts both of UN organisations such as UNICEF and the World Food Programme and also of non-governmental organisations (NGOs) such as Save the Children Fund and Médecins sans Frontières. The Sudanese government is unusual in allowing OLS to conduct humanitarian work both in government held areas (through Khartoum) and also in the rebel held areas (supplied through a UN base in Northern Kenya, at Lokichokkio (Loki), on the border with Sudan and Uganda, near Lake Turkana).

Air access to South Sudan is vital because what roads exist are heavily mined and impassable for most of the year because of the rains. Landing rights are granted by Khartoum; when I went, permission was granted to land in only four out of 60 possible landing strips – the government changing its mind at a moment’s notice, like playing a huge game of chess. There was certainly a suspicion that, with these variations in access, crises could be created in certain areas while the war was being conveniently fought in other areas when no one from outside was looking.

**The Operation Lifeline Sudan supply camp in Northern Kenya**

I travelled to Loki by light aircraft from Nairobi – an amazing trip, flying very low across the African countryside. Nothing had prepared me for how low we flew in the
Sudan. This was possibly to escape radar detection, but our pilots, as UN/OLS employees, always complied with their operational remit to let the Khartoum and Juba air traffic control towers know where we were at any time.

The OLS organisation on the ground is impressive. It was salutary to see both the dedication of the various aid workers, doctors, nurses, nutritionists, hydrologists, vets, agriculture and livestock experts from many different countries around the world, and also how the various NGOs interlinked constructively with the OLS/UNICEF and UN set-up.

Visit to South Sudan

The first place visited was Pakor, a fiercely hot and dusty place in the troubled Bahr al Ghazal province, an area that borders Chad and the Central African Republic. I had gone to observe the polio immunisation programme being undertaken in a very impressive fashion by the OLS. This programme was no mean undertaking: because of the limited air access, people had to be gathered in from large swathes of the country, while vaccines were distributed to other centres by car, motorbike and bicycle – all of which had to be flown in from Kenya. (I travelled in the back of a Canadair Buffalo plane, seated next to a Land Rover full of vaccines stored cold in special containers.) When I arrived in Pakor, it soon became apparent that there was a developing emergency, since many of the displaced people from the war-torn areas, including Wau, had been wandering the countryside in search of food. Pakor seemed to be acting as a magnet for the sick and hungry, because it was one of the few places with air access.

The sight of malnourished children is always difficult to bear, especially at first hand, but the knowledge that many people had walked for days to obtain food, only to be turned away because there was none, was particularly distressing. I was greatly impressed with the strength of the women in this Dinka area who, while the able-bodied men were away fighting, carried the burden of looking after families and searching for food. Many tall, proud people were reduced to breaking into termite hills to look for the odd few grass seeds that these insects may have gathered – a back-breaking toil in the interminable heat.

Operation Lifeline Sudan emergency response

OLS is forever adapting to the shifting situation and was quick to muster supplies to this area. Emergency food and medical supplies were flown in, and food drops undertaken, by Hercules transport plane, targeting areas that had no airstrips. However, the sheer scale of the problem was such that outside help was urgently needed. UNICEF, along with various NGOs, subsequently launched an appeal to raise funds for these displaced people whose plight was made worse because of the late arrival of the rainy season. This, like many of the world's climatic ills in 1998, was blamed on the El Niño effect.

Longer-term aid programmes

I later went to Leer, the capital of the SSIM held area, which at that time was at relative peace, but even there the hospital I visited was woefully inadequate for a potential population of nearly one million people. I saw cases of tertiary syphilis, disseminated gonorrhoea, meningitis and suppurating wounds from land-mine injuries, but the only antibiotic available at that time was penicillin V, while chloroquine was the only antimalarial in this resistant area. All this was in addition to the usual burden of disease. Most sobering was the realisation that the only available analgesic was paracetamol, so operations had been carried out without anaesthetic agents.

There were, however, signs of hope in other areas, with OLS/UNICEF organising longer-term aid, with teacher training and education programmes, reunification of war-torn families, agriculture and livestock campaigns. I visited a cattle camp where the intensely pastoralist Nuer people had collected 10,000 cattle for vaccination against rinderpest. This was heartening to see. (If, as a non-vet, you have ever tried to vaccinate a cow with three-foot long horns, it quickly becomes clear that it is something definitely to leave to the expert.)
Landmine clearance

OLS/UNICEF is cooperating with the SPLA humanitarian wing in land-mine clearance in some areas of the country. Although 5,000 land-mines have been cleared, this is the tip of the iceberg, particularly because with the advent of each rainy season the mines get washed away to new locations, rendering any map useless. A generation of amputees has grown up, because the children, who are the most curious, are often likely to stray from safe pathways. Nevertheless, it was good to see the work of the Red Cross (operating from Northern Kenya because of restriction on direct access to South Sudan by the Khartoum regime) with their locally made, custom-built prostheses. It is, however, a harsh fact of life that most victims die in situ before they can get medical help, let alone be flown to Kenya for an artificial limb.

Response of the outside world

On my return to the UK, I was impressed to see how quickly UNICEF brought the news of the then impending disaster to the attention of the outside world. I was able to see how streamlined the OLS operation was, both for rapid emergency aid and for longer-term developmental aid. It is to be hoped that pressure to negotiate can be brought to bear on the warring factions (and on those partisan countries that prolong the war by aiding one or other side), since all the Sudanese people seem to be needless pawns in a wider political struggle between certain perceived Islamic and Western interests.

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Note: The information in this article does not reflect the views of either OLS or UNICEF, both of which are official UN agencies and, as such, supply humanitarian aid to both the Sudanese government held areas and the south Sudanese rebel held areas of the country.

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ROYAL COLLEGES OF PHYSICIANS

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The next Part 1 Examination will take place on Tuesday 28th September 1999. Application forms accompanied by the necessary certificates and fee of £200 must reach the College of entry by Friday, 30th July 1999. Prospective candidates must have been qualified for at least 18 months and may enter through any of the three Royal Colleges of Physicians listed below. Candidates for the Paediatric option must apply through the Royal College of Paediatrics and Child Health (RCPCH).

Please note that the Paediatric option of Part 1 of the MRCP(UK) ceased to be available in January 1999, when it was replaced by Part 1 of the MRCPCH.

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