

## *A Second Front: How Environmental Degradation Threatens to Aggravate Human Conflicts in Sudan<sup>®</sup>*

### **Introduction**

It is becoming increasingly clear that prospects for a lasting peace in Sudan will depend upon the country's widespread environmental degradation being addressed alongside social and political issues. The post-conflict assessment process that began in Sudan in 2005, together with fieldwork carried out since by UNEP's Post-Conflict and Disaster Management Branch, have confirmed that rapidly eroding natural resources and systems are among the root causes of decades of social upheaval in several parts of the country, including the troubled region of Darfur. The most serious of these concerns are land degradation, desertification, and the spread of deserts in some northern regions by an average of 100km over the past four decades.

These phenomena are linked to several human actions, including overgrazing of fragile soils by a livestock population that has exploded from less than 30 million animals to 135 million today. Many fragile areas are also experiencing a 'deforestation crisis', which has led to a loss of almost 12% of Sudan's forest cover over the past 15 years. Without urgent intervention, some areas may see their forest cover completely disappear within the next decade. Meanwhile, there is mounting evidence of long-term regional climate change in several parts of Sudan, including a marked decline in rainfall in Darfur and Kordofan. In Northern Darfur, precipitation has fallen by more than a third in the past 80 years.

Indeed, the scale of desertification recorded in Northern Darfur is almost unprecedented in the world – adding significantly to the stresses on traditional livelihoods caused by the region's enduring conflict. In the coming years, declining rainfall and increased variability are expected to further reduce food production, particularly in the Sahel belt. This is particularly true of some of the more fragile and remote border zones dividing Northern and Southern Sudan. In the Nuba Mountains, for example, the indigenous Nuba people have expressed concern over damage caused to trees and other vegetation by the recent arrival of the camel-herding Shanabla. Like many pastoralists, the Shanabla have been forced to migrate south in search of grazing lost to agricultural expansion and drought in the north. Some Nuba have warned about a "new war" if the environmental damage continues.

This long-awaited UNEP report makes several wide-ranging recommendations, including investment in environmental management and climate adaptation measures, capacity-building of national and local government personnel in environmental affairs, and the integration of environmental concerns and solutions in the planning of all UN relief and development projects.

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<sup>®</sup> Abstract by S. Diop, Head of Ecosystems Section Division of Early Warning Assessment – UNEP – Nairobi, at the occasion of the symposium organized on the "Crisis in Darfur" by Cornell University, Institute for African Development, Ithaca, New York, USA.

## **Bleak Horizons: Sudan's Growing Desertification**

There is strong and growing evidence of long-term regional climate change in several parts of Sudan, with growing variability and a marked decline in general rainfall patterns. Historical data in Darfur indicates that, across the region, rainfall has declined by between 16% and over 30% – turning millions of hectares of marginal semi-arid grazing land into desert.

Areas on the fringes of the Sahara have become acutely vulnerable, including parts of Darfur, Northern Kordofan, Khartoum State, and Kassala State. The rapid spread of deserts in the northern regions is accompanied by bleak projections for agricultural production, with sorghum production projected to decline from yields of close to 500kg/hectare to 150 kg/hectare. Such figures will add to Sudan's mounting refugee crisis, with more than 5 million IDPs already placing huge pressure on the fragile areas around refugee camps, particularly with regard to deforestation for fuelwood.

While returning displaced people to their homelands is clearly a laudable aim, in some areas this may prove impossible simply because environmental degradation has gone too far. A preliminary analysis by UNEP indicates that some states are already displaying the early signs of imminent environmental collapse due to desertification and land degradation. Parts of Northern and Western Darfur are particularly at risk, together with Southern Kordofan, eastern Kassala, northern Blue Nile, northern Upper Nile, and northern Unity state.

The rapid loss of forests across Sudan is a particular cause for concern, says the report. Since 1990, forest cover is estimated to have declined by 11.6%, or 8.8 million hectares, primarily due to slash-and-burn agriculture and rising energy demands. UNEP estimates that fuelwood requirements for 2006 amounted to between 27 and 30 million cubic metres. Regionally, two-thirds of the forests in north, central and eastern Sudan disappeared between 1972 and 2001. In Darfur, a third of forest cover was lost between 1973 and 2006. A further study by ICRAF, the World Agroforestry Centre, commissioned by UNEP for this report, indicates that Sudan has lost 30% of all its forests since Independence – with the majority of forests in the north already completely gone.

Deforestation and land degradation are also silting up Sudan's dams, which provide a vital reservoir for fresh water sourced from the Nile River and other external sources. The Sennar Dam on the Blue Nile has lost an estimated 60% of its capacity, while the Khashm el Girba Dam on the Atbara River has been reduced by over 50%. Rising siltation and sedimentation are also reducing flows for the recharge of underground aquifers and obstructing centuries-old fish migrations.

## **Conclusion**

It is clear that the management and rehabilitation of Sudan's natural environment hold a major part of the key to the future of the country's peace – particularly in conflict-prone regions such as Darfur and Kordofan. However, Sudan's tragedy is not just the tragedy of one impoverished African country. It is a window onto a wider world, which underlines how issues such as the uncontrolled depletion of forests, soils and arid lands can destabilise communities and entire regions – particularly in the new, more fragile era of climate change.