" SAND FROM THE DESERT ENCROACHES ON VILLAGES AND FIELDS, DAMAGES CROPS AND WELLS, BURIES HOUSES, AND LOWERS THE QUALITY OF LIFE., "

PEOPLE, TREES, AND DESERT: VILLAGE PROTECTION IN NORTHERN SUDAN

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Introduction

This paper presents experience from shelterbelt and sand dune stabilisation projects developed by SOS Sahel, a British non-governmental organisation, in the Nile Valley of Northern Sudan since 1985. The paper draws especially on the work of the project at Ed Debba in Northern Province, where the threat of sand encroachment is most acute. The emphasis here is on actions taken by villagers to combat sand encroachment rather than the assistance provided by SOS Sahel.

IN NORTHERN SUDAN, SAND ENCROACHMENT THREATENS A PRODUCTIVE AGRICULTURAL LANDSCAPE AND A WAY OF LIFE DEVELOPED OVER HUNDREDS OF YEARS.

The projects work with the men, women, and children of farming communities to help them plant trees around their villages and farms. Tree planting has become essential, as natural forests, which played a vital protective role, have vanished in recent decades. Sand from the desert encroaches on villages and fields, damages crops and wells, buries houses, and lowers the quality of life. Dunes, which were previously stabilised by natural vegetation, are reactivated. Sand encroachment is one factor, among several, which threatens the sustainability of a productive agricultural landscape and way of life developed over hundreds of years.

External agencies have a role in raising awareness and introducing technology, but the task of fighting sand encroachment essentially belongs to the villagers. It is important that they own the trees and shelterbelts, and feel confident of their capacity to replicate such work in future. Their own projects correspond to their perceived priorities. So their time horizons, land tenure systems, technology, labour, and materials shape shelterbelt and dune stabilisation designs.

" FOR HUNDREDS OF YEARS THE NILE VALLEY OF NORTHERN SUDAN HAS PROVIDED GOOD CONDITIONS FOR HUMAN LIFE AND AGRICULTURE, IN MARKED CONTRAST TO THE HARSH ENVIRONMENT OF THE SURROUNDING DESERT. "

We have cautiously come to consider that "blueprint" designs for large scale, long-term (even "permanent") treatment of moving sand, based on scientific and engineering concepts, devoid of local social, economic and tenurial considerations, are not helpful. The apparently piecemeal efforts of the farming communities are in fact a more realistic response to sand encroachment. The scale of the problem and the severity of constraints on control methods suggest that a concept of flexible management of the desert/farmland interface is more helpful than an attempt at a permanent solution. The plantations modify the landscape, especially at the interface between desert and farmland, and contribute to the sustainability and quality of life of the villages.

For hundreds of years the Nile Valley of Northern Sudan has provided good conditions for human life and agriculture, in marked contrast to the harsh environment of the surrounding desert. Farming communities have made considerable investments in their homes, farms, and wells, and the villages have strong traditions. The mud-built village houses (at their best) use simple local materials to create cool and tranquil living conditions. The date-palm groves and the shady *Acacia* trees at the edge of the dunes provide favourite sites for social gatherings.

The northern Nile Valley as a whole presents the essential features of an oasis: heat and aridity, but also shade and abundant water. The Ed Debba area in Northern Province has a hyper-arid climate with annual potential evapotranspiration over 2,500 mm and shade temperatures which rise above 40ºC (104ºF) from April to October and can reach 50ºC (122ºF). Relative humidity can be as low as 10% (Bristow 1996). Annual rainfall has declined over recent decades from negligible levels to almost zero (UNEP 1992).

Regular Nile floods used to deposit fertile silt on the river terraces, islands, and flood basins. The Nubian sandstone aquifer, re-