

Eden Foundation

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Desertification - a threat to the Sahel

Land covers 14.9 billion hectares of the earth's surface. A UNEP (United Nations Environmental Programme) study shows that 6.1 billion hectares are dryland of which 1 billion hectares are naturally hyperarid desert. The rest of the dryland has either become desert or is being threatened by desertification. One quarter of the world's population inhabit the drylands and depend on this area for their livelihood.

Decimation of vegetation is a widespread problem that extends far beyond Dalli. According to National Geographic trees once protected Khuwei village in western Sudan. These days the grain yields are insufficient and a villager talks of always being hungry. Sand dunes even rise to roof level. These dunes did not blow in from the Sahara, 200km away, but have formed from eroded soil inside the agricultural zone where the trees have been cut down. The threat to Dalli and Khuwei farmers does not come from the Sahara Desert itself but from desertification within the agricultural zone.

Desertification is a man-induced process that leads to soil nutrient depletion and reduction of biological productivity. In the Sahel slashing and burning of natural forest and bushland in order to clear land for annual agriculture is the main cause of this destruction. Farmers continue to degrade their environment in the agricultural zone even after the decimation of perennials. A few months after harvest, farmers cut the millet stalks and burn them leaving their fields exposed to strong winds until the next sowing season. These winds blow away the top soil, uproot seeds and seedlings and suffocate seedlings and plants where soil later accumulates.

The Director of the National Department of the Environment in Niger said at the Direct Seeding seminar in Zinder that 250,000 hectares are being lost each year in Niger through desertification. This is equivalent to 2,500 km², an area about the same size as Luxembourg. The Department of the Environment, Zinder, explained that firewood destined for Zinder town is collected up to 200 km away.



It is also alarming how over-optimistic projects have mechanically cleared large areas of the green belt of all vegetation in order to make way for annual crops. Local villagers recently grew millet in one such area but then abandoned the land leaving it totally bare because it was too far north for sustainable millet production. If they continue this practice, breaches will be made in the green belt. The desert will advance very quickly into the agricultural zone through the breaches leading to desert encroachment, which is the invasion by the desert onto agricultural land.

Man can either destroy his environment or be constructive by solving problems that occur within it. By increasing the population of perennials in the agricultural zone, farmers become agents for the stabilisation of their land. They then live in harmony with their environment in a symbiotic relationship where the land benefits from man's presence through the increased number of perennials, and man benefits from his own active control of desertification.



Eden's solution to desertification is for farmers to stabilise their environment themselves by intercropping edible perennials in their fields. Perennials act as anchors that stabilise the soil against wind and water erosion and also improve fertility. This protects the natural green belt because farmers respect perennials if they cultivate them making it less likely that they cut them down. Where farmers intercrop annuals with perennials, their land will produce more food both from the perennials and from increased yields from annuals lessening the pressure to move into the natural green belt. Eden's solution leaves farmers to revegetate by their own initiative. They then retain their dignity as Westerners are not revegetating their land for them but at the same time Eden supports their work by researching species that they will use.
