

Halting the Scourge of Desertification

Desertification has been called 'the greatest environmental challenge of our times'. But what is it and why should we be concerned about it?

Almost 40% of the Earth's total land surface is dryland. These semi-arid areas are defined by their modest water supply (they receive less than 600 millimetres of rain a year). They are not as dry as deserts, although they often border deserts. Drylands are called by many names: plains, grasslands, savannas or steppes.

Dryland ecosystems are especially fragile, and can easily be overused by the people who depend on them, resulting in the degradation of the land. For example, overgrazing by livestock can encourage wind and water erosion, while the collection of firewood reduces or eliminates plants that help to bind the soil. Irresponsible agricultural practices, such as overcultivation, can exhaust the soil, preventing further plant growth.

These poor land management practices can turn productive dryland into

non-productive desert. This is known as desertification. When these practices described above coincide with drought, a regular phenomenon in countries with erratic rainfall, such as South Africa, the rate of desertification increases dramatically.

As vegetation cover and soil layers are reduced, rain drop impact and runoff increases. This means water is lost off the land instead of soaking into the soil to provide moisture for plants. Even long-lived plants that would normally survive droughts die. As protective plant cover disappears,

floods become more frequent and more severe. Desertification is self-reinforcing, in other words, once the process has started, conditions are set for continual deterioration.

Increasing human population and poverty contribute to desertification as poor people may be forced to overuse their environment in the short term, without the ability to plan for the long-term effects of their actions. Where livestock has a social importance beyond food, people might be reluctant to reduce their stock numbers.

RESTORING THE LAND AT OKHOMBE

In Okhombe, in the northern Drakensberg, KwaZulu-Natal, the local community has been taught how to use its land and water resources better. Overgrazing by cattle and goats has led to widespread erosion in the area. The community does not only lose land that could be used for food production. Huge loads of silt also lands up in nearby rivers and dams. This reduces the capacity of the storage reservoirs and is expensive to remove. To restore some of these degraded areas, people have been showed how to implement erosion control techniques, including placing stone packs inside dongas, planting vetiver grass on contour lines, and building cattle steps. Community-participative monitoring and evaluation projects have also been put in place to help assess whether these techniques are successful.



USEFUL WEBSITES

www.deat.gov.za

www.botany.uwc.ac.za/Envfacts/facts/desertification.htm

www.undp.org/drylands/



Courtesy of SA Tourism

Over 90% of the Northern Cape is potentially susceptible to desertification.



Erosion is one of the characteristics of desertification.

KNOW THE LINGO

Deforestation: The permanent destruction of indigenous forests and woodlands.

Desertification: The process which turns productive dryland into non-productive desert as a result of poor land management.

Drylands: Areas usually bordering deserts that have an annual rainfall of less than 600 millimetres.

Erosion: The removal of soil by the action of water or wind.

DID YOU KNOW?

- About 3,6 billion of the world's 5,2 billion hectares of useful land for agriculture has suffered erosion and soil degradation.
- A third of all people on Earth – about two billion – are potential victims of desertification's creeping effect. If left unchecked, as many as 50 million people (that is the entire population of South Africa) could be displaced due to severe desertification.



Courtesy of SA Tourism

Overgrazing can lead to the degradation of productive soil.

Desertification reduces the ability of land to support life, affecting wild species, domestic animals, agricultural crops and people. Around the world, it is estimated that between 10% and 20% of drylands are already degraded. The greatest impact of desertification is in Africa, as two thirds of the continent comprises desert or drylands. South Africa is losing about 300 to 400 million tons of topsoil every year. Areas such as the Northern Cape are especially prone to desertification.

To halt desertification the number of animals on the land must be reduced, allowing plants to regrow. Soil conditions must be made favourable for plant growth by, for example, mulching. Mulch (a layer of straw, leaves or sawdust covering the soil) reduces evaporation, suppresses weed growth, enriches soil as it rots, and prevents runoff and hence erosion. Reseeding may be necessary in badly degraded areas. Locally-available materials, such as rock packs, can be used to fill up eroded areas.

However, the only realistic large-scale approach is to prevent desertification through good land management in dryland areas. 