

A The Sahel zone lies between the Sahara desert and the fertile savannahs of northern Nigeria and southern Sudan. The word *sahel* comes from Arabic and means marginal or transitional, and this is a good description of these semi-arid lands, which occupy much of the West African countries of Mali, Mauritania, Niger, and Chad.

B Unfortunately, over the last century the Sahara desert has steadily crept southwards eating into once productive Sahel lands. United Nations surveys show that over 70 per cent of the dry land in agricultural use in Africa has deteriorated over the last 30 years. Droughts have become more prolonged and more severe, the most recent lasting over twenty years in parts of the Sahel region. The same process of desertification is taking place across southern Africa as the Kalahari desert advances into Botswana and parts of South Africa.

C One of the major causes of this desert advance is poor agricultural land use, driven by the pressures of increasing population. Overgrazing – keeping too many farm animals on the land – means that grasses and other plants cannot recover, and scarce water supplies are exhausted. Overcultivation – trying to grow too many crops on poor land – results in the soil becoming even less fertile and drier, and beginning to break up. Soil erosion follows, and the land turns into desert.

D Another cause of desertification is loss of tree cover. Trees are cut down for use as fuel and to clear land for agricultural use. Tree roots help to bind the soil together, to conserve moisture, and to provide a habitat for other plants and animals. When trees are cut down, the soil begins to dry and loosen, wind and rain erosion increase, other plant species die, and eventually the fertile topsoil may be almost entirely lost, leaving only bare rock and dust.

E The effects of loss of topsoil and increased drought are irreversible. They are, however, preventable. Careful conservation of tree cover and sustainable agricultural land use have been shown to halt deterioration of soils and lessen the effects of shortage of rainfall. One project in Kita in south-west Mali funded by the UNDP has involved local communities in sustainable management of forest, while at the same time providing a viable agricultural economy based on the production of soaps, bee-keeping, and marketing shea nuts. This may be a model for similar projects in other West African countries.

1 The Sahara has spread slowly northwards into the Sahel region.

2 Just over 70 per cent of the dry land in agricultural use in Africa has deteriorated over the last 30 years.

3 Desertification is taking place faster in southern Africa than in the Sahel.

4 The advance of the desert is not the result of poor agricultural land use.

5 The loss of tree cover is a minor cause of desertification.

6 If there is a loss of tree cover, the deterioration in the soil is halted.

7 Tree conservation is more effective than sustainable agricultural land use in reducing the consequences of lack of rain.