

## DESERTIFICATION IN THE SAHEL

The Sahel, a semiarid grassland, runs along the southern edge of the Sahara Desert. This band of dry land extends across the African continent from Senegal in the west to Sudan in the east. The Sahel has little land for farming, as the soil is not naturally fertile, and there is little rainfall during most of the year. The natural vegetation in the Sahel is a mix of low-growing grassland, drought-resistant acacia, baobab trees, and other small bushes.

In recent years, the Sahel has experienced desertification. Desertification is a process by which the productive land turns into desert—this happens when land becomes progressively drier until vegetation is no longer able to grow. Scientists consider it an advanced form of land degradation where soils are depleted of their nutrients. This happens mainly as a result of human activity and hot, dry climates that make it difficult for the land to recover.

Both human hands and natural forces can cause and worsen desertification.

The Sahel often suffers from naturally occurring periods of drought—long spans of time with little or no rain. Some scientists claim that these droughts are worsened by climate change, which lengthens naturally occurring droughts by altering global temperatures and rainfall patterns. These extended droughts can turn areas of naturally arid, low-yield land into areas completely unsuited for natural or human-sown vegetation. In other words, a long-term drought makes it difficult, if not impossible, for natural vegetation or crops to grow. To make matters worse, without plants' roots holding dry topsoil in place, desert winds blow soil away and gradually turn marginal lands (that is, land with little agricultural yield) into deserts.

While climate may be partly to blame for desertification in the Sahel, human activity has also contributed. Most people in the Sahel have historically worked as farmers or herders. Today, however, some farmers plant cash crops like peanuts, which wear out the soil faster than traditional crops more suited to the Sahel's dry climate. Other farmers, in an effort to grow enough food to sustain a growing population, no longer rotate their crops or allow their fields time to replenish their nutrients. Once the soil is depleted of moisture and nutrients, it is susceptible to being blown away by the wind before it can recover.

Similarly, herders in the Sahel have increased the size of their herds so that they can sell their animals. The result is many more animals than usual grazing on a limited amount of land. This overgrazing causes a loss of vegetation—when herds of animals eat all the grass on a piece of land, the soil underneath is left vulnerable and unable to grow back quickly enough to meet the grazing demand of the livestock.

Deforestation is another contributor to desertification. Those who live in the Sahel region cut down trees to use for firewood and clear trees to make room for more farmland. Once the trees disappear, the ground is no longer protected by the leaves' canopy. As a result, the soil is vulnerable to the sun's direct heat and to direct rainfall, and eventually turns to dust. Without the roots of trees and other vegetation, the dust is blown away by the wind.

As a result of these issues, water has become scarce for people, animals, and plants of the region. Without water and productive land, farmers and herders are unable to sustain their traditional livelihoods. As many lack training for other types of work, they face poverty. Many have little choice except to migrate elsewhere to survive.

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