



The causes of Desertification

Desertification is the degradation of drylands

It involves the loss of biological or economic productivity and complexity in croplands, pastures, and woodlands. It is due mainly to climate variability and unsustainable human activities. The most commonly cited forms of unsustainable land use are overcultivation, overgrazing, deforestation, and poor irrigation practices. Seventy percent of the world's drylands (excluding hyper-arid deserts), or some 3,600 million hectares, are degraded. While drought is often associated with land degradation, it is a natural phenomenon that occurs when rainfall is significantly below normal recorded levels for a long time.

Drylands respond quickly to climatic fluctuations

By definition, drylands have limited freshwater supplies. Precipitation can vary greatly during the year. In addition to this seasonal variability, wide fluctuations occur over years and decades, frequently leading to drought. Over the ages, dryland ecology has become

familiar to this variability in moisture; plants and animals can respond to it rapidly. For example, satellite imagery has shown that the vegetation boundary south of the Sahara can move by up to 200 km when a wet year is followed by a dry one, and vice versa.

People must also adjust to these natural fluctuations

The biological and economic resources of drylands, notably soil quality, freshwater supplies, vegetation, and crops, are easily damaged. People have learned to protect these resources with age-old strategies such as shifting agriculture and nomadic herding. However, in recent decades these strategies have become less practical due to changing economic and political circumstances, population growth, and a trend towards more settled communities. When land managers cannot or do not respond flexibly to climate variations, desertification is the result.

The relatively low priority given to environmental protection often leads to poor land management decisions

The overuse of land may result from specific economic conditions or from inappropriate land laws or customs. In many cases, unregulated access to land resources may lead some individuals to maximize their own gains by overexploiting the land at the expense of the community as a whole. Poor people, particularly poor women, often lack access to the best land, depending instead on the most fragile areas and resources. Their poverty may give them little alternative but to extract what they can from the scarce resources available to them, even though this degrades the land.

International economic forces can encourage people to overexploit their land

International trade patterns can lead to the short-term exploitation of local resources for export, leaving little profit at the community level for managing or restoring the land. Similarly, the development of an economy based on cash crops, or the imposition of taxes, can distort local markets and promote overexploitation of the land.



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Ignorance, errors, and natural and man-made disasters can also contribute to land degradation

Ignorance of the natural environment played an important role in the US during the infamous Dust Bowl of the 1930s; among other errors, during a time of drought Midwestern farmers used ploughs better suited for the more temperate latitudes of Western Europe. In recent decades, similar mistakes in the choice of policies or technologies have led to land degradation in many countries, both developed and developing. Disasters such as wars and national emergencies also

destroy productive land by displacing its managers or causing heavy concentrations of migrants to overburden an area. Natural disasters such as floods and droughts can have a similar effect.

What roles do increasing populations and population densities play?

It is tempting to conclude that an expanding human population is the ultimate driving force behind desertification. More people in an area inevitably exert a greater pressure on that area's resources; sometimes this pressure is indirect, as when growing urban populations place demands on food production in

uncrowded rural areas. But the causes of desertification are complex, and the relationship between two variables such as population and desertification is not clear-cut. For example, a decline in population can result in desertification since there may no longer be enough people to manage the land adequately. Many hillside terraces in Yemen have fallen into disrepair with the exodus of labour to neighbouring oil-rich countries. Examples can also be cited of areas that support large concentrations of people without much degradation, such as around the city of Kano in Nigeria.

