

# DRYLANDS AND LAND DEGRADATION

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• **DLs known as desertification, and is the loss of land.**

reduces agricultural output, contributes to droughts and increases human vulnerability  
 range

## What is the issue?

Drylands are places of water scarcity, where rainfall may be limited or may only be abundant for a short period. They experience high mean temperatures, leading to high rates of water loss to evaporation and transpiration. Drylands are also characterised by extremely high levels of climatic uncertainty, and many areas can experience varying amounts of annual precipitation for several years.

Drylands are found on all continents, and include grasslands, savannahs, shrublands and woodlands. They are most common in Africa and Asia – for example, in the Sahel region in Africa and almost all of the Middle East. Drylands cover over 40% of the earth's land surface, provide 44% of the world's cultivated systems and 50% of the world's livestock, and are home to more than two billion people.

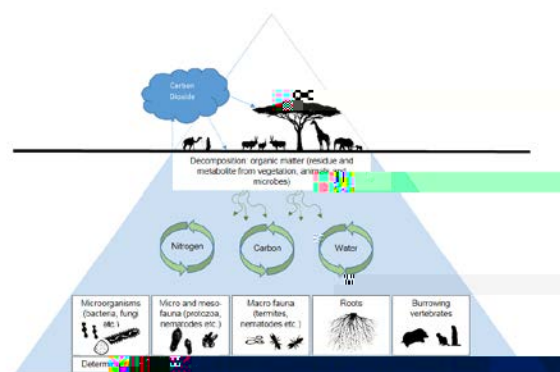
Drylands are extremely vulnerable to climatic variations, and damaging human activities such as deforestation, overgrazing and unsustainable agricultural practices. The consequences of these include soil erosion, the loss of soil nutrients, changes to the amount of salt in the soil, and disruptions to the carbon, nitrogen and water cycles – collectively known as land degradation.

Land degradation leads to the reduction or loss of the biological or economic productivity and complexity of land. In drylands, land degradation is known as desertification. It is estimated that 25-35% of drylands are already degraded, with over 250 million people directly affected and about one billion people in over one hundred countries at risk.

## Why is this important?

### Biodiversity

Drylands support an impressive array of biodiversity. This includes wild endemic species – such as the Saiga Antelope in the Asian steppe and American bison in the North American grasslands that do not occur anywhere else on earth – and cultivated plants and livestock varieties known as agrobiodiversity. Biodiversity in drylands also includes organisms which live in the soil, such as bacteria, fungi and insects – known as soil biodiversity – which are uniquely adapted to the conditions. Soil biodiversity comprises the largest variety of species in drylands – determining carbon, nitrogen and water cycles and thereby, the productivity and resilience of land. The loss of biodiversity in drylands is one of the major causes and outcomes of land degradation.



Soil biodiversity and ecosystem functions © IUCN

### Food and water provision

Low precipitation and prolonged dry seasons in drylands can lead to water scarcity, and limit agricultural productivity and output. Drylands biodiversity maintains soil fertility and moisture to ensure agricultural growth, and reduces the risk of

drought and other environmental hazards. For example, vegetation is decomposed in the stomachs of large herbivores in the drylands, after which the dung is transformed into nutrients by bacteria in the soil, which are absorbed by plants. Bacteria and other microbes also break down plants and animals into decomposing residues – soil organic matter, which helps the soil easily absorb rainwater and retain moisture. Each gram of organic matter can increase soil moisture by 10-20 grams, and each millimetre of additional infiltration of water into the soil represents one million additional litres of water per square kilometre.

Poor crop and soil management, and habitat destruction undermine the ability