

## IS Desertification A Reality or Myth?

### **What is desertification?**

Desertification is a process of fertile land transforming into a desert typically as a result of deforestation, drought or improper/inappropriate agriculture. Desertification is the development of desert-like conditions in regions that have experienced human disturbance such as deforestation, overgrazing, or poorly managed agriculture. Although the extent of the world's deserts expand and contract in response to natural changes in climatic conditions, desertification is a phenomenon induced by human activities. Land alteration often brings with it modification of local climatic conditions. Desertification is a phenomenon that ranks among the greatest environmental challenges of our time.

The United Nations Convention to Combat Desertification (UNCCD) defines the term desertification as '[land degradation](#) in [arid](#), [semi-arid](#) and [sub-humid](#) areas resulting from various factors including climatic variations and human activities'. Desertification is a dynamic process that is observed in dry and fragile [ecosystems](#). It affects terrestrial areas (topsoil, earth, [groundwater reserves](#), surface [run-off](#)), animal and plant populations, as well as human settlements and their amenities (for instance, terraces and dams).

Although desertification can include the encroachment of sand dunes on land, it doesn't refer to the advance of deserts. Rather, it is the persistent degradation of dry land ecosystems by human activities — including unsustainable farming, mining, overgrazing and clear-cutting of land — and by climate change.

### Causes

The immediate cause is the removal of most vegetation. This is driven by a number of factors, alone or in combination, such as drought, climatic shifts, tillage for agriculture, overgrazing and deforestation for fuel or construction materials. Vegetation plays a major role in determining the biological composition of the soil. Studies have shown that, in many environments, the rate of erosion and runoff decreases exponentially with increased vegetation cover. Unprotected, dry soil surfaces blow away with the wind or are washed

away by flash floods, leaving infertile lower soil layers that bake in the sun and become an unproductive hardpan. Alternatively, recent research has suggested that the movement and migration of large herds of livestock and wildlife has an integral role in the preservation of vegetation and soil fertilization, and that the removal of livestock and wildlife (largely by human influence) has been the main driver of increasing desertification.

### **What is World Day to Combat Desertification?**

The World Day to Combat Desertification has been observed since 1995 to promote public awareness relating to international cooperation to combat desertification and the effects of drought. In 1994, the United Nations General Assembly [declared \(General Assembly Resolution A/RES/49/115\)](#) June 17 the "World Day to Combat Desertification and Drought" to promote public awareness of the issue, and the implementation of the United Nations Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa.

Ever since, country Parties to the Convention, organizations of the United Nations System, international and non-governmental organizations and other interested stakeholders have celebrated this particular day with a series of outreach activities worldwide. The World Day to Combat Desertification is a unique occasion to remind everybody that desertification can be effectively tackled, that solutions are possible, and that key tools to this aim lay in strengthened community participation and co-operation at all levels.

### **What is the theme?**

The theme for the 2013 World Day to Combat Desertification is **“drought and water scarcity”**. Freshwater is valuable. Of all the water on Earth, only 2.5 per cent is fresh water. And of all this freshwater, the total usable supply for ecosystems and humans is less than 1 per cent. When demand for water exceeds available supply, it results in water scarcity. Drylands are particularly vulnerable to water scarcity. The projected intensification of freshwater scarcity will cause greater stresses in drylands. While each

person needs at least 2,000 cubic meters of water for human well-being and sustainable development every year, on average, people in the drylands have access to only 1,300 cubic meters.

The goal of the 2013 World Day to Combat Desertification is to create awareness about the risks of drought and water scarcity in the drylands and beyond, calling attention to the importance of sustaining healthy soils as part of post Rio+20 agenda, as well as the post-2015 sustainable development agenda.

This year's slogan, **“Don't let our future dry up”** calls for everyone to take action to promote preparedness and resilience to water scarcity, desertification and drought. The slogan embodies the message that we are all responsible for water and land conservation and sustainable use, and that there are solutions to these serious natural resource challenges. Land degradation does not have to threaten our future.

### **What Causes Desertification**

Desertification occurs when:

- The tree and plant cover that binds the soil is removed. It occurs when trees and bushes are stripped away for fuel wood and timber, or to clear land for cultivation.
- Animals eat away grasses and erode topsoil with their hooves.
- Intensive farming depletes the nutrients in the soil.

Wind and water erosion aggravate the damage, carrying away topsoil and leaving behind a highly infertile mix of dust and sand. It is the combination of these factors that transforms degraded land into desert.

### **Impact of Desertification**

Desertification is a global issue, with serious implications worldwide for biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development.

Drylands are already fragile. As they become degraded, the impact on people, livestock and environment can be devastating. Some 50 million people may be displaced within the next 10 years as a result of desertification.

The issue of desertification is not new though — it played a significant role in human history, contributing to the collapse of several large empires, and the displacement of local populations. But today, the pace of arable land degradation is estimated at 30 to 35 times the historical rate.

### **Desertification and Poverty**

Some two billion people depend on ecosystems in dry land areas, 90% of whom live in developing countries.

A downward spiral is created in many underdeveloped countries where overpopulation causes pressure to exploit drylands for farming. These marginally productive regions are overgrazed, the land is exhausted and groundwater is over drafted.

When rural land becomes unable to support the local population the result is mass migrations to urban areas.

The increased frequency and severity of droughts resulting from projected climate change is likely to further exacerbate desertification.

### **What can be done?**

- Reforestation and tree regeneration
- Water management — saving, reusing treated water, rainwater harvesting, desalination, or direct use of seawater for salt-loving plants
- Preoccupying the soil through the use of sand fences, shelter belts, woodlots and windbreaks
- Enrichment and hyper-fertilizing of soil through planting

- Farmer Managed Natural Regeneration (FMNR), enabling native sprouting tree growth through selective pruning of shrub shoots. The residue from pruned trees can be used to provide mulching for fields thus increasing soil water retention and reducing evaporation.
- society organizations are invited to organize events to celebrate the World Day to Combat Desertification as an additional opportunity to increase awareness raising and participation in the process

### **Do you know these facts and figures?**

- 2.6 billion people depend directly on agriculture, but 52% of the land used for agriculture is moderately or severely affected by soil degradation.
- Land degradation affects 1, 5 billion people globally.
- Arable land loss estimated at 30 to 35 times the historical rate.
- Due to drought and desertification each year 12 million hectares are lost (23 hectares/minute!), where 20 million tons of grain could have been grown.
- 74% of the poor (42% of the very and 32% of the moderately poor) are directly affected by land degradation globally.

**QUOTE OF THE WEEK:** *“Sustainable land use is a prerequisite for lifting billions from poverty, enabling food and nutrition security, and safeguarding water supplies. It is a cornerstone of sustainable development.” ~ UN Secretary-General Ban Ki-moon*

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