



Desertification

Stopping the Deterioration
of Drylands



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du Canada

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Canada

What is Desertification?

Desert-like dead zones that can spread and join together.

It results in a harmful reduction or loss of once biologically sound and/or economically productive soil in arid regions.

It is a global concern, affecting every country in the world.





Soil Erosion

Soil erosion is a big part of desertification.

Vegetation protects soil from erosion – particularly trees and shrubs with strong root systems.

Leaf litter and organic matter also stop erosion by sitting on the soil surface and keeping heavy rains or hail from causing “splash erosion”.

Causes

The main causes of desertification are:

- Drought – precipitation levels that are below normal in an area over a prolonged period of time.
- Human activities – forest degradation/deforestation, overcultivation, poor irrigation practices, overgrazing, and other misuse of land or ecosystems.

Most human factors contributing to desertification are caused by economic and social pressure, lack of knowledge or war.

A Vicious Circle

The causes and effects of desertification are often inter-related.

Poverty – many of the world's most disadvantaged people live off the land and use – and sometimes mis-use - it to meet their basic needs. As natural resources deteriorate, so does quality of life.

Climate change – desertification causes excess carbon to be released into the air when soil erodes. This boosts the greenhouse effect and contributes to climate change, which results in more extreme weather like drought.

Other Adverse Effects

Desertification reduces biodiversity by destroying soil micro-organisms, vegetation and animal habitats.

This impacts the food supply, the use of medicines derived from dryland plants and organisms, and human health.

Other Adverse Effects

Desertification also reduces our supply of fresh water. It causes silt problems, salt-water contamination of the water table, pollution and decreased fresh-water biodiversity.

Water supply problems, famine and population displacement can lead to political problems, tensions between neighbouring countries and conflict.

Affected Regions

AFRICA

- Area of hugest concern
- Heavy reliance on trees and plants (e.g for food, fuel, shelter)
- 70% of continent is desert or dryland
- 75% of agricultural drylands already degraded
- Desertification strongly linked to poverty, migration and food security
- Other concerns: weak technological base; scarce water supply; unsustainable production practices

MIDDLE EAST

- Prevalent drylands
- Scarce water supply
- Encroaching deserts
- Depleted fresh water aquifers being overtaken by salt water

CENTRAL AND EASTERN EUROPE

- Severe deterioration of some of the world's largest water bodies (e.g. Caspian Sea)
- Desertification has hit 60% of Kazakhstan due to excessive water use
- 100 million hectares affected or threatened in Russia

THE AMERICAS

- Some South American countries facing severe drought and land degradation
- Central American countries facing desertification – many due to deforestation
- Up to 70% of the Caribbean affected
- Portions of the US and Canada are at risk due to drought and human pressure

ASIA-PACIFIC REGION

- Australia has one of the world's worst problems with 2.6 million km² of desert
- Bangladesh suffering salt water backflow into river systems
- Deserts cover much of Afghanistan and 13% of China
- Severe erosion on mountain slopes in Nepal, India and Laos
- 90% of soil suffering degradation from human misuse in humid Southeast Asia
- Deforestation and drought harming Pacific Islands

A Global Concern

Desertification is a serious worldwide threat. Global efforts to combat the problem have escalated over the last 20 years, culminating in the 1994 adoption of a UN Convention to Combat Desertification (UNCCD).

To date, 175 countries have ratified the Convention. Canada – with a long tradition of aiding the developing world's battle with desertification – is a strong supporter of the UNCCD.

The UNCCD

The goal of the UNCCD is to combat desertification and lessen the effects of drought at all levels.

Long-term strategies are focused on better land productivity and rehabilitation, and conservation of land and water resources.

Alleviating poverty and coordinating all stakeholders are central to these efforts.

The Canadian Effort

Canada is supporting UNCCD efforts through financial contributions and by sharing relevant technology, knowledge and know-how.

The Canadian International Development Agency (CIDA), along with the International Development and Research Centre (IDRC), negotiates and implements the Convention on behalf of the Government of Canada.



CIDA in Action

Many CIDA projects help to combat desertification. For example, through CIDA, farmers in Haiti are learning about proper farming techniques and practices from booklets that have been produced with simple text and pictures.

The booklet series, called *Machete Verde*, covers topics like soil conservation, pesticide use, animal management, fire control and agroforestry – all topics relevant to the arrest of soil erosion.



Helping at Home

Battling drought and desertification is nothing new here at home. Canada's Prairie provinces – Alberta, Saskatchewan and Manitoba – all contain drylands that are at risk.

Measures to combat drought and desertification in these areas have been in place for decades. These efforts, along with implementation of the UNCCD's domestic goals, are largely overseen by Agriculture and Agri-Food Canada's Prairie Farm Rehabilitation Administration (PFRA).

Fast Facts

The world loses an estimated 24 billion tons of topsoil annually. Once gone, it is difficult to regenerate. While nature can take thousands of years to make rich and hardy topsoil, drought or human actions can destroy it in just a few short years.

Drylands make up about 40% of the world's land area and are home to nearly 2 billion people.

The Prairie provinces contain over 80% of Canada's agricultural land.

Contact Information

To learn more about Canada's efforts to combat desertification, contact:

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