2015 International Year of Soils

SOILS ARE THE FOUNDATION FOR VEGETATION

Fertile soil supports plant growth by providing plants with nutrients, acting as a water holding tank, and serving as the substrate to which plants anchor their roots.

Vegetation, tree cover and forests prevent soil degradation and desertification by stabilizing the soil, maintaining water and nutrient cycling, and reducing water and wind erosion.

SOILS AND CROPS

Food security and nutrition rely on healthy soils.

The nutrient content of a plant's tissues is directly related to the nutrient content of the soil and its ability to exchange nutrients and water with the plant's roots.

Nutrient depletion takes place in intensive agricultural systems and is linked to the practice of monoculture.

Crop rotation is critical to preserving and eventually improving soil health.

Crops protect soil against soil erosion agents (e.g. water and wind) and improve soil structure by:

- **rooting**
- **enriching soil nutrients** by providing organic matter
- establishing **symbiotic relationships with soil bacteria**

SOILS AND PASTURE

Grasses found on pasturelands protect the soil against soil erosion and support soil biological activities.

The livestock sector provides food and income for **1 billion** of the world's poor.

26%
of the earth's terrestrial surface is occupied by grazing

Grazing and overgrazing remove the soil cover, fostering soil erosion and reducing important soil functions such as climate regulation.

Grass type and pasture rotation help keep the soil system functional.

As global demand for meat and dairy products continues to rise, soil protection and conservation on pasturelands becomes even more critical.

SOILS AND FORESTS

Forests provide livelihoods for more than a **1 billion** people and are vital for conservation of biodiversity, energy supply, and soil and water protection.

Nearly **1/3** of the total carbon in terrestrial ecosystems is captured in forests.

The use of solid biofuels, including wood, is predicted to grow, along with the expansion of agricultural lands **putting at risk the capacity of forest soils to act as carbon sinks in the future.**

As a result of the conversion of forests and native grasslands to croplands,

the soil's capacity to act as a carbon sink can decrease by 20-40%

Sustainable soil management is important to address the growing food demand caused by population growth.

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Food and Agriculture Organization of the United Nations

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