



Trees and Soils

Trees and soils play a crucial role in the environment. They work together to form important components of a healthy ecosystem.

Trees promote biodiversity by providing a home for countless animal and plant species, they help protect our soil and water, and they purify our air.

Did you know?

- A forest can store water some 20 metres deep into the soil, as well as keep moisture under its canopy. During the dry season the forest can release water into rivers or the air.
- 80% of the forests that originally covered Earth have been cleared, fragmented or otherwise degraded.
- In Brazil an acre of rainforest is destroyed every 9 seconds. In Canada an acre of ancient forests is clear-cut every 12 seconds. Indonesia is losing nearly 2 million hectares of forests a year
- A third of the Earth's land surface is threatened by desertification. 24 billion tons of fertile soil disappears annually.
- In France Perrier-Vittel have found that reforestation infiltration zones and switching to organic farming practices is cheaper than building water filtration plants.
- Europe's forest area has increased by more than 10% since the early 1960s as a result of tree planting and natural regeneration of marginal lands.
- Costa Rica's 1996 Forestry Law compensates forest managers and private landowners who maintain or increase the area of forest within their properties.

The Issues

Trees and forests act as:

- The "lungs of the earth". They remove carbon dioxide and replenish oxygen in the atmosphere.
- A home for other plants and wildlife.
- A protection system for soil and water. Tree roots filter groundwater, prevent soil erosion and help maintain soil quality.
- Recreational areas (parks, ecotourism).
- Local climate regulators, by providing natural barriers such as shade from the sun and shelter from the wind.
- Major water reserves, helping recharge water tables, regulate river flows and prevent flooding, regulate rainfall patterns and improve the quality of water coming out of a catchment.
- A source of fuel and building materials.

Threats to trees

Threats come from commercial logging and land clearing for purposes such as mining, infrastructure, urban development and agriculture.

Deforestation (clearing of trees) can degrade water, air and soil quality as well as destroy habitats vital for millions of species.

The continual removal of trees and other vegetation, coupled with poor land management practices has a negative impact on many aspects of our environment. These include loss of productivity and consequently food supply, habitat degradation and vulnerability to foreign species invasion, and poor human health due to air and water pollution.

Threats to soil

Deforestation has a direct and potentially devastating impact on soil quality. Vegetation cover intercepts raindrops reducing their ability to displace soil particles and cause erosion. Tree roots and vegetation hold soil in place and absorb water, helping to reduce run off. Poor quality soil loses its capacity to retain water, organic matter and nutrients. This can affect the soil's viability for agricultural and food supply purposes.

Soil quality is also affected by pesticides, fertilizers, industry and other human activities.

Soil pollution, erosion, degradation are terms used to describe threats to soil quality. Desertification is decreased soil quality in its most extreme form.

Taking Action

While the global effects of deforestation and desertification can seem immense and manageable only by the combined efforts of industry and government, local actions of individuals and communities **can** make a real difference.

Start in your own backyard! Here are some things you can do:

Consumers

As a consumer you have the responsibility to be a wise shopper. Wherever possible, buy sustainably harvested wood and recycled wood products.

Reduce your use of wood products. To learn how, visit www.sierraclub.org/sierra/199607/s_hopper1.asp

Look for a Forest Stewardship Council (FSC) logo on your wood product. This indicates it has come from a forest that meets the highest environmental and social standards. FSC is the only system that tracks products from the forest floor all the way to the retail shelf, a process known as "chain of custody" monitoring.

By acting as a wise shopper, you'll support sound agriculture and forest practices and help maintain and protect our natural resources.

At Home

Use your own compost rather than chemical fertilizer for your garden. By doing so, you'll save money and keep your soil healthy. Refer to CUW's 'Organic Waste' information sheet for more details.

Wherever possible conserve and protect existing vegetation. When planting new areas, select a variety of plants and trees (ground covering, bushy, tall etc) that are native to your area.

This way you will help to prevent soil degradation and maintain biodiversity in your community.

Planting trees can also add value to your property!

Within the community

Organise a tree-planting activity in your community. For tips on how to plant a tree or organise a community tree planting project visit:

<http://www.americanforests.org/resources/communitytreeplanting>

Participate in a global tree planting campaign – a great way to motivate your community to make a positive impact.

Current campaigns include UNEP's Plant for the Planet. The campaign is currently being implemented in Kenya, Ghana and Bangladesh, with plans to extend to other countries. Contact UNEP's Children/Youth Unit to find out more: <http://www.unep.org/tunza/>

Include tree planting, composting, soil protection and education programs in your CUW initiatives!



Members Taking Action

- In **India** PAHAL conducts Tree Planting Camps to counteract the decrease in forest cover in the Punjab area. More than 25,000 trees were planted in one year, under the motto 'Plant Trees Save Earth'.
- In **Israel** KKL-JNF conserves soil, plants trees, manages forests and combats desertification in extensive nationwide activities.
- In **Zambia** Youth Conservation Volunteers reuse plastic containers in their tree nurseries. Trees are planted to prevent topsoil and litter being washed into nearby streams.
- In **Kenya** Friends of Nairobi Environment and Mambo Youth Group run a tree-planting program in schools and parks in conjunction with the Ministry of Natural Resources.

Further Information

Clean Up the World
www.cleanuptheworld.org
Clean Up Australia
www.cleanup.com.au
American Forests - Global ReLeaf
www.americanforests.org/global_releaf
Forest Stewardship Council
www.fscus.org
Trees for the Future
www.treesfff.org
UNEP - Plant for the Planet
<http://www.unep.org/tunza/>
World Agroforestry Centre
www.worldagroforestrycentre.org

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