



Incentives to curb deforestation needed to counter climate change

Two billion tonnes of carbon enter atmosphere each year due to forest loss

9 December 2005, Rome - Noting that deforestation accounts for 25 percent of all man-made emissions of the greenhouse gas carbon dioxide (CO₂), FAO offered today to provide data and technical advice to countries attending the UN climate change conference in Montreal to help them explore ways to create financial incentives for reducing forest loss in the developing world.

"FAO's newest data on the role of forests in mitigating climate change, contained in our recently released *Global Forestry Resources Assessment (FRA 2005)*, provide a clear picture of the contribution that forests make to countering global warming -- and of how deforestation exacerbates the problem," said Dieter Schoene, of FAO's Forestry Department.

"There are a number of strategies that countries can use to accurately monitor reductions in deforestation and increases in carbon storage, especially in tropical countries where forests do the most to remove carbon dioxide from the atmosphere," he said. Such reporting would be key to any scheme to create financial incentives for carbon storage by developing countries.

Two billion tonnes of carbon released each year due to deforestation

According to FRA 2005, the world's forests store 283 gigatonnes (Gt) of carbon in their biomass alone, while the total carbon stored in forest biomass, deadwood, litter and soil together is roughly fifty percent more than the amount found in the atmosphere -- adding up to one trillion tonnes.

But the assessment also shows that the destruction of forests adds almost two billion tonnes of carbon to the atmosphere each year.

"Preventing this stored carbon from escaping is important for maintaining the global carbon balance and vital to conserving the environment," according to Schoene.

For the world as a whole, carbon stocks in forest biomass decreased at least by 1.1 Gt annually during the 2000-2005 period as a result of continued deforestation and forest degradation, the assessment found. Carbon in forest biomass decreased in Africa, Asia and South America in the period 1990-2005, but increased in all other regions.

These losses were partly offset by forest expansion (including planting) and an increase in growing stock per hectare in some regions

Forests could be better used to combat climate change

In addition to preventing forests from being turned into other land-uses, new forest-based carbon stores should be created through afforestation (new plantings) and reforestation (replanting of deforested areas), FAO says.

Carbon stocks in forest biomass reach the highest values per hectare in Western and Central Africa and Central and South America, according to FRA 2005.

Particularly in the tropics, where vegetation grows rapidly and therefore pulls carbon from the atmosphere more quickly, planting trees can remove large amounts of CO₂ from the air within a relatively short time. There, forests can fix as much as 15 tonnes of carbon in their biomass and wood per hectare per year.

FAO and other experts have estimated that global carbon retention resulting from reduced deforestation, increased forest regrowth and more agroforestry and plantations could make up for about 15 percent of carbon emissions from fossil fuels over the next 50 years.

How forests trap one trillion tons of carbon

When fossil fuels are burned they release carbon dioxide into the atmosphere, contributing to a carbon excess that in turn contributes to global warming and climate change.

Trees and forests help alleviate these changes by removing carbon dioxide from the atmosphere and converting it during photosynthesis to carbon compounds, which they then "store" in the form of wood, vegetation and soil humus, a process referred to as "carbon sequestration." Forests are unique in this capability; removing excess carbon from the atmosphere is virtually impossible by any other means.

Trees generally are about 20 percent carbon by green weight, and in addition to the trees themselves, the overall biomass of forests also acts as a "carbon sink." For instance, the organic matter in forest soils -- like the humus produced by the decomposition of dead plant material -- also acts as a very large carbon store that can store carbon for thousands of years.

As a result, forests store enormous amounts of carbon: all in all, the world's forests and forest soils currently store more than one trillion tonnes of carbon -- about one and a half times the amount found floating free in the atmosphere

Contact:

George Kourous
Information Officer, FAO
george.kourous@fao.org
(+39) 06 570 53168
(+39) 348 141 6802

