

Climate Change - Planting and Saving Trees

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Forests cover about 37% of the Earth's land surface and around 50% is devoted to agriculture; less than 2% is covered by urban areas and infrastructure while what is left is deserts, ice-covered or otherwise marginal. The Earth's forested area has reduced by 20% since 1900 while, in the same time period, world population has increased by 445%. Deforestation has been a natural consequence of humans' need to grow food and produce timber to house their steadily increasing numbers. Why are we concerned about deforestation now?

Most deforestation today is happening in the tropics where the main drivers are just 4 commodities – beef, soya, palm oil and timber products. Since 1990, Brazil has lost 10% (54 million Ha) of its rainforest for timber and agricultural (especially beef cattle) production. Indonesia lost 24% of its forests between 1990 and 2016 while palm oil plantations increased from just over a million Hectares to 12 million today and land allocated to timber production comprises half of the country's remaining total forested area.

Madagascar's deforestation (1.24 million Ha lost since 1990) has led to catastrophic erosion of its red soil into the ocean at the rate of 400 tonnes per Ha per year. This has been likened to the island 'bleeding to death', sadly appropriate as many of the islands unique species are threatened with extinction. Over 31% of Indonesia's amphibians, birds, mammals, and reptiles are endemic as are almost 60% of its plants. Populations of several species, such as the orangutan are endangered; others, like the Javan and Sumatran rhinos are on the brink of extinction while others, such as the Bali and Javan tigers, are already extinct.

Tropical forests are complex ecosystems characterised by high biodiversity of plants, insects and animals existing in fragile balance. Human activity, which may be no more than building a road or carefully extracting prime timber, threatens this balance. Replacing this diversity with mono-cultures such as oil palms or beef production is attended by increasing human activity, the draining of ecologically valuable peat-lands, the use of artificial fertilisers and pesticides which, even when done responsibly, changes the ecosystems irreversibly.

Forest cover is also important for other environmental reasons. Over half of the global population relies on forested watersheds for water for domestic use, for agriculture and for industry. But deforestation reduces the intercept and filtering actions of wooded catchment areas, increasing the incidence of land-slides, flash flooding, soil erosion and pesticide and fertiliser run-off from the newly-made agricultural land, thereby reducing water quality and increasing siltation of rivers, dams and harbours.

The review of evidence leaves no doubt that forests play a central role in the world's complex ecological, social and economic systems. The world is a finite environment and its systems are co-dependent. Presently the social and economic systems are adversely affecting the world's environmental balance, so, can anything be done to restore balance? Planting more trees, as China and 88 other countries have done, is one positive option. But that is not enough: key to success is the preservation of biodiversity and that means doing everything we can to stop the losses. So, what can we do?

Employing new farming methods and technologies and growing improved crops would help. Eating less meat and adopting a more vegetarian diet would be a greater help as livestock husbandry takes up 77% of agricultural land but produces only 17% of our calories and 37% of our protein. The UN has done a formidable job in terms of global monitoring and oversight, and political action has made great strides, as the Paris Accords show, but glaciers melt faster than politicians act.

We no longer have the luxury of waiting. My conclusion is that we must use the power of economics to force change. Each and every consumer has to become an activist. Never buy anything that is harmful to the planet. Demand certification of sustainability. Carry a shopping bag, you will think twice before buying unnecessary items. Use less of products, like palm oil, that are useful but less damaging than alternatives and avoid all foods and products with an unsustainable environmental signature. Don't go on holiday to an exotic destination, send the money to an environmental charity instead. Walk rather than drive. Re-use, upcycle, recycle. Live sustainably. The whole planet is depending on **you**.