

We must renew our commitment to enhancing India's forest cover

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This past week, pictures of the San Francisco sky with an orange glow appeared like a surreal Instagram post from God. The unprecedented breadth of these wildfires over three western states of the US, combined with their intensity, scale, speed and duration, have greatly complicated the ability to bring them under control. The 500,000-acre August Complex fire is the largest ever recorded blaze in California.

Firefighters refer to a "fire triangle" of elements that are crucial for the creation of a wildfire—fuel, oxygen and heat. Abetted by strong winds, a small spark caused by human error or lightning can ignite thousands of acres of tinder-dry forest in a short time. While natural fires have regenerative properties, large-scale anthropogenic fires have a devastating environmental impact. Beyond the direct impact on life and property, wildfires can have long-term effects on the quality of rivers and lakes, and most particularly on stormwater runoff channels. Paradoxically, ash-dry soil with organic matter that hasn't rotted becomes hydrophobic and prevents the absorption of water. Deforestation releases carbon dioxide into the air and greatly impacts biodiversity. Biodiversity loss is suspected to play a role in the spread of emerging infectious diseases like covid-19.

Fires, wild or deliberate, are the fastest way to deforest land. Forests provide many benefits, like regulating water flows, sequestering carbon and nurturing biodiversity. Populations living on the periphery of forests often see an advantage in cultivating the land or using it for pasture, resulting in high rates of deforestation. In 2019, the world lost a football field of rainforest every six seconds. We lost nearly 11.9 million hectares (one hectare is 0.01 sq km) of tree cover in 2019, about 3.8 million of it from mature, humid tropical primary forests. That is about 1.8 gigatonnes of released carbon dioxide, or the annual emission equivalent of 400 million cars (the world's total number of cars is estimated at 1 billion). Brazil, the Democratic Republic of Congo and Indonesia have lost the most tropical primary forest cover in recent years. Beyond the tropics, the massive wildfires during the latest Australian summer resulted in the worst tree loss ever recorded in Australia, along with the loss of hundreds of millions of animals.

India has about 31 million hectares, or 11% of its area, under forest cover. Over the past 20 years, India has lost 328,000 hectares of humid primary forest. The top 5 regions that contributed to this forest loss are all in the North-East, with Assam and Mizoram leading the list. Deforestation and destruction of wetlands are among the leading causes of annual floods in heavily urbanized areas in Kerala and the cities of Mumbai and Chennai.

Despite the grim aggregate statistics, some countries like Colombia and Costa Rica have been able to slow forest loss. While on the one hand contributing to forest loss, China, the US, Ethiopia, and India have also planted billions of trees over the last decade. The Billion Tree Campaign inspired by Kenyan Nobel Laureate Wangari Maathai has morphed into a Trillion Tree Campaign. Environmentalists estimate that planting a trillion trees can annul the deleterious effect of a decade of anthropogenic emissions.

The alarming loss of forest cover has led to a global attempt to find solutions. One promising proposal is to compensate marginalized populations on the periphery of forests and incentivize them not to flatten forests. This "cash for conservation" or payment for ecosystem services (PES) was pioneered in Costa Rica, and has been successfully used in Mexico. PES systems are complicated to

design and implement because they have to be very specific to micro-climatic conditions as well as to the practices of local populations. The world's longest running PES programme is the US Conservation Reserve Program, which pays out about \$1.8 billion a year under nearly 800,000 contracts with farmers to refrain from cultivating environmentally sensitive land. The contract requires these farmers to plant resource-conserving covers to manage soil-erosion, improve water quality, and enhance biodiversity. China's Grain-for-Green scheme is even more ambitious and hands out nearly \$4 billion a year to retire sloping plots (greater than 25 degrees) that are prone to soil erosion by giving out grain and cash. One of the programme's goals is to reduce the annual silt deposits in the Yangtze and Huang He rivers by 2.6 million tonnes. Rewilding land tracts through outright purchase both within and outside protected areas is another effective way to obtain benefits.

Even as the world tries to give up fossil fuels, reduce material consumption, work more from home and turn vegetarian, afforestation, rewilding and PES programmes can add significant strength to the fight against climate change. The wildfires in California serve as a timely reminder that climate change is here and is not some hypothesis. India would do well to set up an ambitious goal of first retaining and then increasing its forest cover. The work done in the 1970s to protect large areas needs a new impetus from a prime minister who self-confessedly loves nature.

P.S: "Two roads diverged in a wood, and I took the one less travelled by, and that has made all the difference," wrote the poet Robert Frost in The Road Not Taken

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