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India's forests, soil can store additional 7 billion tonnes of carbon: Study

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India's forests and soil can potentially store an additional 7 billion tonnes of carbon, a new study has estimated.

This puts Indiaamong the top 10 countries with additional carbon storage capacity, the analysis published in the Proceedings of the National Academy of Sciences revealed.

Land-based carbon storage is a part of nature-based solutions to climate crisis, one of the focus areas at the 26th Conference of Parties (CoP26) to the United Nations Framework Convention on Climate Change. These measures can cut total greenhouse gas emissions by about a third, according to experts.

Wayne Walker, Carbon Program Director at Woodwell Climate Research Center and lead author of the report, told Down To Earth:

In order to realise the untapped potential of land to aid in addressing the climate crisis, decision-makers need to understand three things: How much storage space is available, where that space is located and what specific actions can be taken to take advantage of the opportunity as rapidly as possible.

The team created a global map using methods described by other scientists. It is based on data from the field, a remote sensing technique and the Moderate Resolution Imaging Spectroradiometer satellite of the United States National Aeronautics and Space Administration.

A machine-learning algorithm analysed the combined data to model and map current and potential additional carbon storage, the researchers said.

The team also analysed additional land carbon storage through reforestation, improving natural forest stewardship and storage benefit through conserving forests.

The world can potentially store 287 billion tonnes of additional carbon. Of this, 78 per cent is in forests and 22 per cent in soil, the analysis found.

Tropics show the most promise, holding 68 per cent of additional carbon-storing potential, the study noted.

The tropics are known for their wealth of carbon-rich forest ecosystems, Walker explained. "However, high deforestation and forest degradation rates in recent decades have reduced their carbon-storing potential in many countries."

India can gain the most by improving the management of existing and likely degraded forests, according to Walker. Restoring forests that were previously lost offers the second-best benefit, he added.

Boreal and temperate zones hold roughly 46 billion tonnes of additional carbon storage potential, the study observed.

The researchers also examined how climate change is likely to impact the storage capacity of forests. Under a high emissions scenario, they predicted an average increase of 17 per cent additional potential for land carbon storage globally, but a decrease of roughly 12 per cent in the tropics.

Walker acknowledged that the study did not consider climate change feedbacks such as increased droughts, wildfires and physiological effects. These factors, he added, are likely to reduce the long-term potential. The team called for more research on the subject.

The team expects that these findings can help since natural climate solutions figure heavily in delivering Paris Agreement commitments among most countries.

"These results must be combined with a range of other information to prioritise and effectively implement natural climate solutions," said Bronson Griscom, senior director of Natural Climate Solutions at Conservation International, in a statement.

For example, he explained, nations can combine these results with predicted climate conditions, costs and implications for local human wellbeing, while prioritising and designing restoration efforts.

Source: https://www.downtoearth.org.in/news/forests/india-s-forests-soil-can-store-additional-7-billion-tonnes-of-carbon-study-83092