

INDIA, CHINA LEAD GLOBAL GREENING EFFORT: STUDY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Verdant land: The extent of farming has increased in India due to groundwater use. | Photo Credit: [V. Raju](#)

India and China are leading the global greening effort, which is quite contrary to the general perception worldwide, a study based on NASA satellite data has said, observing that the world is a greener place than it was 20 years ago.

“China and India account for one-third of the greening but contain only 9% of the planet’s land area covered in vegetation. That is a surprising finding, considering the general notion of land degradation in populous countries from over exploitation,” said lead author Chi Chen of Boston University.

The study published on February 11, in the journal *Nature Sustainability* said that satellite data (2000 – 2017) revealed a greening pattern strikingly prominent in China and India and overlapping with croplands worldwide.

China alone accounts for 25% of the global net increase in leaf area with only 6.6% of global vegetated area.

The greening in China is from forests (42%) and croplands (32%), but in India it is mostly from croplands (82%) with minor contribution from forests (4.4%), the study said.

China is engineering ambitious programmes to conserve and expand forests with the goal of mitigating land degradation, air pollution and climate change.

Food production in China and India has increased by over 35% since 2000 mostly owing to an increase in harvested area through multiple cropping facilitated by fertiliser use and surface or groundwater irrigation.

“When the greening of the earth was first observed, we thought it was due to a warmer, wetter climate and fertilization from the added carbon dioxide in the atmosphere,” said Rama Nemani, a research scientist at NASA’s Ames Research Center and a co-author of the study. The study was made possible thanks to a two-decade-long data record from the Moderate Resolution Imaging Spectroradiometer (MODIS) instruments on NASA’s Terra and Aqua satellites. “Now with the MODIS data, we see that humans are also contributing,” Ms. Nemani said.

The study says that the greening trend may change in the future depending on various factors. For example, increased food production in India is facilitated by groundwater irrigation. As the groundwater is depleted, the trend may change.

The researchers also pointed out that the gain in greenness around the world does not necessarily offset the loss of natural vegetation in tropical regions such as Brazil and Indonesia.

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