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Developing Countries Often Outsource Deforestation, Study Finds

In many developing countries, forest restoration at home has led to deforestation abroad, according to a new study in the Proceedings of the National Academy of Sciences (PNAS).

The authors say their findings could have significant implications for ongoing efforts to protect the world's remaining forests, which are disappearing at an annual rate of more than 32 million acres -- an area roughly the size of England.

"Reducing deforestation is an international priority, given its impacts on carbon emissions and biodiversity," said study co-author Eric Lambin of Stanford University in California and the University of Louvain in Belgium. "However, our study found that strengthened forest-conservation policies and economic expansion often increased the demand for imported timber and agricultural products, which contributed to deforestation abroad."

In the study, Lambin and co-authors Patrick Meyfroidt (University of Louvain) and Thomas Rudel (Rutgers University) analyzed the relationship between reforestation at the national scale and the international trade in forest and agricultural products between 1961 and 2007. The researchers focused on six developing countries -- China, Chile, Costa Rica, El Salvador, India and Vietnam -- that underwent a shift from net deforestation to net reforestation during that period.

Exporting deforestation

In five of the six countries (with the exception of India), the return of native forests was accompanied by a reduction in timber harvests and new farmland, thus creating a demand for imported wood and agricultural products.

"For every 100 acres of reforestation in these five countries, they imported the equivalent of 74 acres of forest products," said Meyfroidt, a postdoctoral researcher at Louvain and lead author of the study. "Taking into account their exports of agricultural products, the net balance amounted to 22 acres of land used in other countries."

During the past five years, the net land-use displacement increased to 52 acres of imported agricultural or forestry products for every 100 acres reforested, he added. That is, for every acre of reforested land, a half-acre was used elsewhere, including countries like Brazil and Indonesia, which together accounted for 61 percent of the all deforestation in the humid tropics between 2000 and 2005.

Glass half full

"If local forest protection merely shifts forest-conversion pressure to natural forests elsewhere in the world, we will not achieve a net gain for nature at a global scale," Lambin said. "However, this study does not imply that the efforts of these countries to protect their forests were useless, but that international trade in wood and agricultural products can decrease the global environmental benefits of national forest-protection policies. The glass is half full, not just half empty."

Meyfroidt pointed to several ways that countries could work together to reduce deforestation abroad, including:

Strengthening international cooperation on issues related to deforestation and land use.

Integrating trade data in international negotiations on environmental issues.

Integrating environmental degradation data in international trade rules.

Promoting certification systems that better link consumption decisions with environmental impacts at production sites.

According to the authors, the study has important implications for the Dec. 5 meeting of the United Nations Collaborative Initiative on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) in Cancun, Mexico.

"The REDD mechanism that is under negotiation should include guardrails to assure that countries that commit to decrease their rate of deforestation do not export their deforestation," Meyfroidt said.

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