Telecoupling Shows Global Impact Of China’s Forestation Efforts

MSU professor Jianguo Liu dissects the global impact of China’s struggle to preserve and expand its forests even as its cities and population balloon.

AsianScientist (Dec. 26, 2013) – As China increases its forests, a Michigan State University (MSU) researcher asks: if a tree doesn’t fall in China, can you hear it elsewhere in the world?

In the journal Asia and the Pacific Policy Studies, MSU professor Jianguo “Jack” Liu dissect the global impact of China’s struggle to preserve and expand its forests even as its cities and population balloon.

Because China’s supersized global role makes each domestic decision a world event, Liu shows how China’s efforts to sustain forests influences other countries, and in turn how those changes may rebound to China.

“For a long time, many scientists have focused specifically on one place to understand environmental impact, but that no longer is enough,” said Liu. “Economic development and environmental conservation in one place are increasingly having substantial influence elsewhere, and spill over into places we don’t consider.”

Deforestation that eases in China tends to reappear in the countries that sell them lumber and food to meet their ravenous appetite for housing and furniture as well as food. But Liu notes that that’s just the beginning.
In the past three decades, China has succeeded in increasing its forest cover. Sweeping policies that limit logging or encourage returning farmland to forest are credited with some of the success. Importing food, such as soybean and meat, and forest products like timber or wood furniture, also contributes. But that seems to have caused forests to decline in the countries selling the forest goods to China, as well as a spray of other impacts.

Importing food to China can allow more land to be returned to forest in China, yet when food demand from China becomes higher, farmers in other countries such as Brazil have more incentive to mow forests down or intensify agriculture by applying more fertilizers and pesticides.

Liu deploys a tool called a ‘telecoupling framework,’ which factors in socioeconomic and environmental interactions over distances, as an integrated way to understand how distance is shrinking and connections are strengthening between nature and humans.

Telecoupling science also allows scientists to consider “spillover” systems – countries that are left out of the direct equations of trade between China and its partners in food and forest goods, but who produce the machinery to harvest and transport timber, or process timber, or even are home to routes for smugglers.

“The days of simply looking at sustainability at one place are over,” said Liu. “We need to understand how the world really works and acknowledge that the world isn’t as big and disconnected as we sometimes treat it.”

The article can be found at: Liu J et al. (2013) Forest Sustainability in China and Implications for a Telecoupled World.

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Source: Michigan State University.
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