

Revolutionise food production system or face mass deforestation, scientists warn

By [Julie Mollins](#)

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Unless land management strategies are overhauled to reduce the gap between forestry and agriculture, it will be impossible to feed and nourish the human population without further damaging the environment and forests, according to scientists.



View of deforestation around Lake Lagano in Ethiopia. Migration, agricultural expansion and charcoal production have cleared the forests in this area. [CIFOR/Olivier Girard](#)

Worldwide, 80% of forest loss is caused by agricultural expansion, more than a quarter of it from commodity production, mostly related to cattle, soy and oil palm. Heavily forested countries with lower production costs and fewer environmental regulations are being used to meet the continually growing demand for agricultural land.

Forests should be better integrated into agriculture rather than cleared to make way for it, said Terry Sunderland, a senior associate scientist with the Center for International Forestry Research (CIFOR) and professor in the Faculty of Forestry at Canada's University of British Columbia.

"We must rethink our entire food production system and double down on investing in small scale, sustainable farming techniques," Sunderland said.

"Integrated landscape management techniques like agroforestry systems are vital for protecting forest biodiversity, critical

for nutrition and growing a diversity of crops. Such systems are inherently more resilient to both economic and environmental shocks."

Smallholder farming is estimated to produce between 30 to 80% of the world's food, he added.

The warning appears in "SDG 2: Zero Hunger – Challenging the Hegemony of Monoculture Agriculture for Forests and People," a chapter in a book titled Sustainable Development Goals: Their Impacts on Forests and People."

The book focuses on how forests and the communities that depend on them will be affected by achieving the 17 U.N. Sustainable Development Goals (SDGs) by 2030.

It argues that the current food system ignores the significant cultural and nutritional contribution of forests and other tree-based systems, such as agroforestry, to human diets.

For 95% of human history, humanity sustained itself by hunting and gathering in grasslands, forests and other natural habitats. It was only around 10,000 years ago when grasses, grains and some animals were domesticated that more sedentary and simplified production farms began to emerge.

While some traditional and Indigenous communities continue to eat a wide variety of species in their diets, the overall trend worldwide has been toward simplification. Just 12 crops and 14 animal species now provide most of the world's food, the paper states.

Forests are being destroyed for a small amount of crops and livestock, a situation which reduces the availability of nutrients and leaves the food system vulnerable to climate change.

"We need to see a dramatic shift in government policies," Sunderland said.

Forests remain vital to food production for many Indigenous Peoples and rural communities because they provide diverse and nutritious food, ecosystem services and wood energy for cooking.

Land rights are key for the preservation of biodiversity, but in much of the world, rural and forest dwellers do not have formal rights to land or forests.

"The fundamental right to food is playing out in various ways around the world often with conflicting claims over forest resources," Sunderland said.

"Of course, forests and trees within agroforestry systems will not achieve global food security alone, but as part of an integrated strategy that combines sustainable forestry and a sustainable agriculture."

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ABOUT THE AUTHOR

Since 2013, Julie Mollins has served in various editorial and outreach roles with CGIAR-affiliated organisations, including the Center for International Forestry Research (CIFOR), Global Landscapes Forum (GLF) and the International Maize and Wheat Improvement Center (CIMMYT). She previously worked for Reuters in Toronto and London, the former Reuters humanitarian website AlertNet in London, and several national news and business publications in Canada.