

UN report sounds alarm on farming land-use crisis

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Robert Howarth, professor of ecology and evolutionary biology, examines maps of coastal waterways. Credit: Robert Barker/University Photography

To feed the world's burgeoning population while saving it from exhausting natural land resources, the United Nations today issued a report for policymakers, "Assessing Global Land Use: Balancing Consumption With Sustainable Supply," published Jan. 24 by the International Resource Panel of the United Nations Environment Programme.

"Over the past 30 years, we've been increasing production on agricultural land, but scientists are now seeing evidence of reaching limits," says Robert W. Howarth, Cornell's David R. Atkinson Professor of Ecology and Environmental Biology and a lead author of the United Nations report.

"We need to stop over-consuming land-based products. For example, one of our key challenges is overusing [agricultural land](#) for growing meat. There is just not enough land on Earth for everyone in the world to eat like Americans and Europeans," says Howarth. "We don't need to become complete vegetarians, but to put this into context and to help sustain feeding a burgeoning global population, we need to reduce our meat consumption by 60 percent – which is about 1940s era levels."

The U.N. predicts the world's population will be around 9.2 billion people in 2050, with the world's less-developed regions contributing the most people. More cropland will be required to feed them. The report explains wide-ranging scientific options for sustainable, global land management. Expanding global cropland forever depletes environmentally needed savannahs, grasslands and forests.

If current conditions continue, by 2050 the world could have between 320 million and 849 million hectares more natural land converted to cropland. "To put things into perspective, the higher range of this estimate would cover an extension of land nearly the size of Brazil," says the report.

Further, the U.N. report – compiled by noted international scientists – says that decoupling fuel and food markets would be a major component of sustainable resource management. Howarth says that countries must halve their current biofuel expectations to ease potential crises. "With widespread use of biofuels, rising petroleum prices will inevitably also drive food prices because biofuels are derived from cropland," says the

report. "Intolerable price increases for food may lead to spreading hunger, cause riots and sociopolitical disturbances."

This difficult challenge reaches beyond agriculture and forestry. The report delves into energy, transportation, manufacturing, global health and family planning, climate protection and conservation.

Large areas with degraded soils must be restored, and improved land-use planning must be implemented to avoid building on fertile land, according to the report. An estimated one-fourth of all global crop soils is degraded, but nearly 40 percent of this degenerated land has strong potential for easy restoration.

To ease land pressures, the U.N. suggests more programs for economywide [sustainable resource management](#); promoting a healthy diet in countries high in [meat consumption](#); programs in family planning that slow population growth; and reducing food loss at the production and harvest stage in developing countries by increasing infrastructure, storage facilities and bolstering cooperatives.

Provided by Cornell University

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