

Bioenergy can support food security and sustainable development

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Credit: University of Twente

Bioenergy development and food security can be simultaneously improved, contrary to the popular belief that biofuels displace food crops, according to a report released by an international, multidisciplinary team of experts from 10 institutions, with prof. dr. Joy Clancy of the University of Twente as one of the co-authors.

"Reconciling Food Security and Bioenergy: Priorities for Action" identifies science-based steps to ensure that biofuels, [food crops](#) and natural resources can be managed sustainably together. The report, published in the journal *Global Change Biology – Bioenergy*, was coordinated by the U.S. Department of Energy's Oak Ridge National Laboratory (ORNL).

Flex-crops

The recommendations include increasing production of "flex-crops" that can provide fuel, food and other services; working with local populations to assure benefits target the right people; diversifying crops, land cover, and product markets to increase resilience against external forces; and ongoing education and analysis.

The report explains how multiple goals can be achieved through proper monitoring of relevant sustainability indicators. "It is a mistake to ignore local costs and benefits of biofuels based on generalized assertions or global models. Reliable information about the actual local effects is essential, but has been lacking in food-biofuel-climate debates," said lead author Keith Kline of ORNL's Climate Change Science Institute.

The report's recommendations for ensuring that food security and bioenergy are successfully integrated include engaging local stakeholders to form the most effective strategies for their conditions, identifying and encouraging flex-crops and other strategies that diversify and stabilize local markets, applying good management practices and tools such as those provided by the Food and Agriculture Organization of the United Nations, planning and implementing multiple-use landscapes that improve efficiency and minimize waste, communicating clearly about specific goals, and strengthening collaborations with existing development programs.

Informed debate

Prof. dr. Joy Clancy, professor in Development Studies specialized in gender and energy at the University of Twente, is one of the co-authors of the report. "There needs to a more informed debate and decision making in respect of bioenergy development", Clancy states. "Biofuels can make an important contribution to the livelihoods of rural people throughout the world while not threatening the food security of the general population. Understanding what motivates rural people to grow particularly crops and what constrains them from participating in biofuel production chains is an important part of making biofuel crops sustainable. You need the right conditions for people and for [crops](#) to flourish, involving them in identifying those right conditions is a key aspect of [food security](#) and sustainable livelihoods."

More information: Keith L. Kline et al. Reconciling food security and bioenergy: priorities for action, *GCB Bioenergy* (2016). DOI: [10.1111/gcbb.12366](https://doi.org/10.1111/gcbb.12366)

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