



**Assessing the impact of the global food system:
Integrating statistics across agriculture, the environment, and human health**

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Food security ranks high on the global policy agenda. At present, over one-half billion people globally are food insecure. Looking forward, the world's population is projected to grow from 7 billion to approximately 9 billion by 2050, and per capita income is projected to grow in nearly all the world's regions. Agricultural productivity has improved rapidly in recent decades, but prospects for future growth are uncertain, especially in light of climate change. The environmental consequences of agriculture, as a major user of land and water, raise additional concerns. Further, the health consequences of the global transition to more "western" diets and increases in obesity create another set of policy challenges. There are calls for a new food policy that takes into account these multiple goals.

Researchers have started to bring together statistics and models to link dietary choices, the agricultural products farmers would need to produce to support different diets, and the environmental consequences of alternative production technologies. The kinds of questions asked include the consequences of the world's population actually eating recommended diets, the implications of increasing organic production methods, and the consequences of increasing agricultural production on water use and water quality. The paper will provide a framework to analyze food policy that integrates food production, sustainability, and diet quality. Some researchers refer to this as achieving sustainable nutrition security.

The framework will draw from the emerging literature on integrated agricultural systems. Recent publications include an interdisciplinary study from the National Academies in the United States, economic models that integrate environmental outcomes, and papers in nutrition journals. Results from an initiative at the Economic Research Service to model the impacts on production of alternative diets will be presented. A key contribution will be identifying the gaps in existing data and strategies to capitalize on available information, including integrating agriculture statistics with statistics from other sectors. The findings will contribute to the United Nations Statistical Commission's Global Strategy for Agricultural and Rural Statistics (Global Strategy) that calls for integrating statistics across sectors to provide policy-makers with the information they need to address food and agricultural policy issues.

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