

## INTERNATIONAL TRADE

## Food trade and resilience

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International trade has reshaped food production and consumption over the past decades. It has also affected the resilience of food systems through the greater interdependence between countries and the spread of intensely managed and highly specialized agricultural systems.

Matti Kummu, from Aalto University, and colleagues made a first-order assessment of the impacts of international food trade on food systems resilience between 1987 and 2013. In their analysis, they considered two major aspects of resilience, ‘diversity and redundancy’ and ‘connectivity’, proxied by four indicators: production diversity; supply diversity; import dependency; and number of countries from which food is imported. Every indicator was calculated as a country-specific index using FAOSTAT data with regard to four nutritional components (proteins, fruits and vegetables, fat and calories). The authors also examined how the four indicators evolved over time. Countries were then ranked according to their performance with respect to each indicator–nutritional component combination.

The analysis showed that food production diversity decreased in major exporting countries. Concerning protein, that was the case in Brazil, USA, Australia and other places specialized in protein-dense foods, while the same index increased in China, the Middle East and other food importers. Concerning fruits and vegetables, however, production diversity

increased in parts of Asia, North Africa and South America.

A more homogeneous pattern was found in the case of food supply diversity, which has increased for most of the world’s countries (particularly in Asia, Africa, the Middle East and Europe) at the cost of increased trade dependency. Only a few countries were able to decrease their import dependency on protein (such as Paraguay, Brazil, Namibia and former Soviet Union countries) and on fruits and vegetables (Argentina, Namibia, South Africa and Spain). The distinction between nutritional components highlights the level of specialization of agricultural production systems.

While unveiling global trends, this study also reveals nuances across regions, types of nutrients produced and resilience aspects. In most countries, more resilience indicators have improved rather than worsened; yet, the increased dependence on food imports combined with a drop in the number of trade partners and rising specialization implies greater vulnerability to shocks. Understanding multiple aspects of resilience and how it evolves over time is key to the design of policies that are consistent across global and local scales.

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