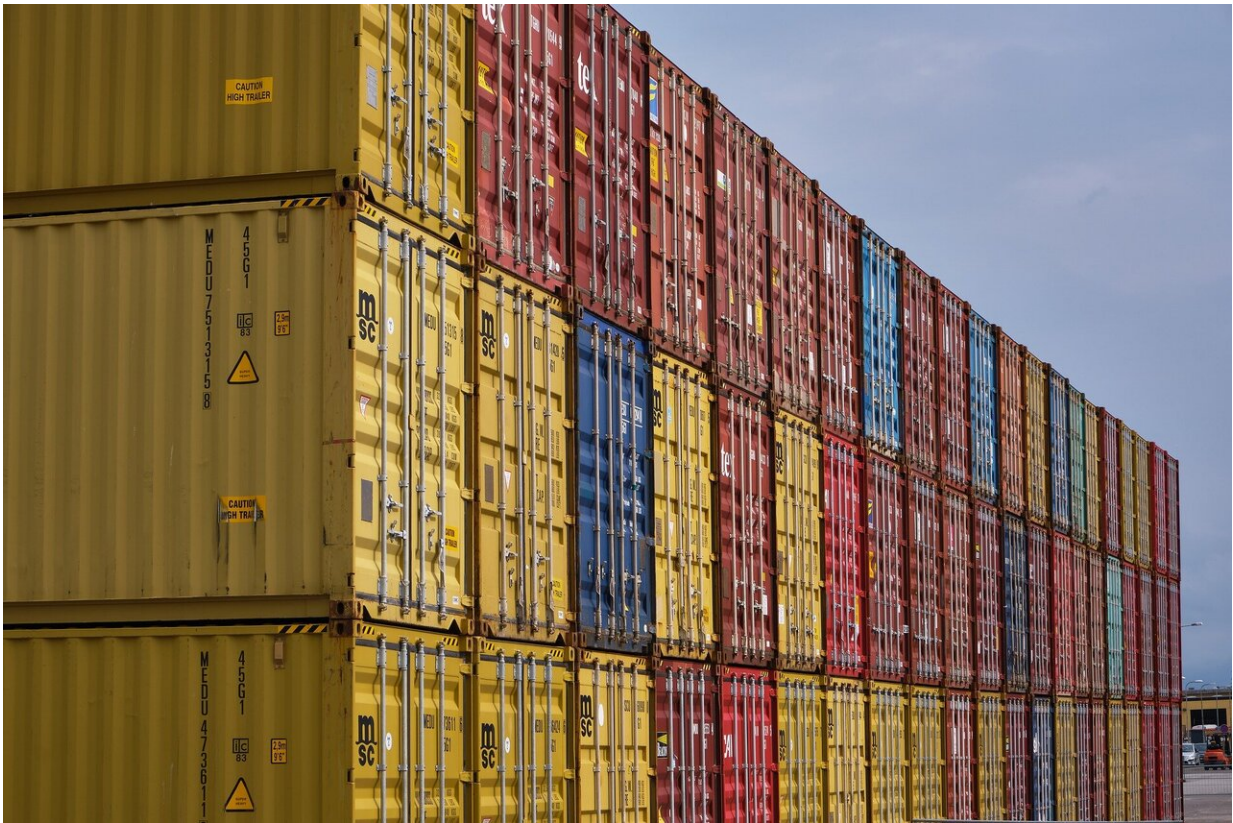


# Free trade can prevent hunger caused by climate change

July 20 2020

---



Credit: Pixabay/CC0 Public Domain

Researchers from KU Leuven, the International Institute of Applied Systems Analysis (IIASA) and RTI International investigated the effects of trade on global hunger as a result of climate change. The conclusion is

clear: International trade can compensate for regional food shortages and reduce hunger, particularly when protectionist measures and other barriers to trade are eliminated.

Climate change has consequences for agriculture worldwide, with clear differences between regions. Expectations are that sufficient food will remain available in the Northern hemisphere, but in regions such as sub-Saharan Africa or South Asia, falling crop yields may lead to higher food prices and a sharp rise in hunger. Further liberalization of world trade can relieve these regional differences: "If regions like Europe and Latin America, for example, where wheat and corn thrive, increase their production and export food to regions under heavy pressure from global warming, food shortages can be reduced," says doctoral researcher Charlotte Janssens. "It sounds quite obvious, but there are many barriers that complicate this free trade."

## **Tariffs and infrastructure**

Import tariffs are a major barrier to international trade in food. They increase the cost of importing basic food crops like wheat, corn or rice. Around a fifth of the worldwide production of these grains is traded internationally. That makes good trade agreements very important in the battle against hunger. Professor Miet Maertens explains: "In the early 21st century, we saw a major liberalization of the international market. This caused the average import tariffs on [agricultural products](#) in Europe, Sub-Saharan Africa and South Asia to drop by a third. Our research shows that this liberalization makes global food provision less vulnerable to [climate](#) change. We also see that further reduction and phasing-out of tariffs can intensify this positive effect."

Besides, there are also other barriers. In some countries, the logistical aspect is a sticking point. Roads are sometimes poor or ports are not equipped for loading and unloading large container ships. Countless

complicated trade procedures can drive up the effective cost of trade. "A global food strategy must go hand in hand with improvements to trade infrastructure," argues Charlotte Janssens.

## **60 scenarios**

The international research team, consisting of scientists from KU Leuven, IIASA and RTI International, among others, are making their recommendations based on 60 scenarios. They took into account different forms of trade policy, along with climate change varying from a two- to four-degree warming of the Earth. 2050 was set as the horizon for each scenario. "Under the current barriers to trade, the worst-case climate scenario of a 4-degree warming will lead to an extra 55 million people enduring hunger compared to the situation without climate change. If vulnerable regions cannot increase their food imports, this effect will even rise to 73 million," argues Janssens. Where barriers to trade are eliminated, "only" 20 million people will endure food shortages due to climate change. In the more mild climate scenarios, an intensive liberalization of trade may even prevent more people from enduring hunger owing to climate change.

Yet a liberalization of international trade may also involve potential dangers. "If South Asian countries would increase rice exports without making more imports of other products possible, they could be faced with increased food shortage within their own borders," warns Charlotte Janssens. "A well thought-out liberalization is needed in order to be able to relieve food shortages properly."

## **Crisis and protectionism**

"Sadly enough, we see that in times of crisis, countries are inclined to adopt a protectionist stance. Since the start of the current corona crisis,

around ten countries are closing their borders for the export of important food crops," says Janssens. "In the context of [climate change](#), it is highly important that they avoid such protectionist behavior and instead continue to maintain and utilize the [international trade](#) framework."

**More information:** Global hunger and climate change adaptation through international trade, *Nature Climate Change* (2020). [DOI: 10.1038/s41558-020-0847-4](#)

Provided by KU Leuven

Citation: Free trade can prevent hunger caused by climate change (2020, July 20) retrieved 11 July 2024 from <https://phys.org/news/2020-07-free-hunger-climate.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.