Climate change, global food security and the role of trade and export restrictions

Transboundary climate risk in agricultural commodity flows and how market dynamic and responses interact

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Climate change and global food trade: mapping risk

Global breadbasket regions affected by extreme weather:

- North America (the US, Canada)
- South America (Argentina)
- Asia (India, China)
- Russia
- Australia
- Europe (Germany, France)

https://www.fao.org/faostat/
https://www.germanwatch.org/en/cri
Climate risks cross national borders and affect all countries, irrespective of their location or level of development.

Climate risk interacts with responses (including anticipation of risk), such as export (and import) restrictions: with the risk of multiplying the market effects of the climate events themselves.
Key Trade Relationships and Climate Risk
Visualising the United States' exports by volume and climate change risk.

Key Trade Relationships and Climate Risk
Visualising China's exports by volume and climate change risk.

Implications for developing countries

- Many low-income countries are highly exposed
  - Direct food security risks via imported staples
  - Indirect risks to food affordability via embedded crops (oils, sugar, etc.)
  - Situation aggravated by export restrictions

- High LDC-dependence on powerful exporters (US, China, Brazil) (and little influence on market dynamics and responses)

- Several south-south risk transfers

- Many developing countries could contribute resilience to global markets if investments are made in their agriculture sectors and domestic supply chains: demand for finance to bolster domestic production will increase
Policy challenges

- Multiple “political spaces” for risk management
- Autarky, narrow-self interest and transboundary mal-adaptation vs. “systemic resilience”
- With or against the tide? Post-COVID, post-Ukraine: grappling with cascading and systemic risk vs. regionalisation, sky-high potential for incoherence & fundamental limits of state governance
- “Just Resilience” – the need for a global approach to adaptation
- What is the role and mandate of WTO to regulate encourage cooperative approaches in the face of global food shortages?
Thank you!
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