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**Resilient Food Supply Chains: Managing
Dependencies, Chokepoints, and Strategic
Risks**

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Resilient Food Supply Chains: Managing Dependencies, Chokepoints, and Strategic Risks

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Profile

- ❖ Global Head of Business Resilience Consulting | Maersk
- ❖ Pioneered the Maersk Supply Chain Resilience Model
- ❖ Over 16 years in risk management & logistics
- ❖ Managed responses to Covid-19, Suez Canal Blockage, geopolitical tensions
- ❖ Associate Member, Business Continuity Institute (AMBCI)
- ❖ Certified Supply Chain Professional (CSCP)
- ❖ M.Sc. in Political Economy
- ❖ BCI APAC Collaboration in Resilience Award Recipient
- ❖ Expert reviewer for UNCTAD Port Resilience Guidebook

Reference

- ❖ [WEF Blog on the Red Sea Situation](#)
- ❖ [Maersk Blue Paper on Resilience](#)

Global Food Supply Dependencies and Vulnerabilities

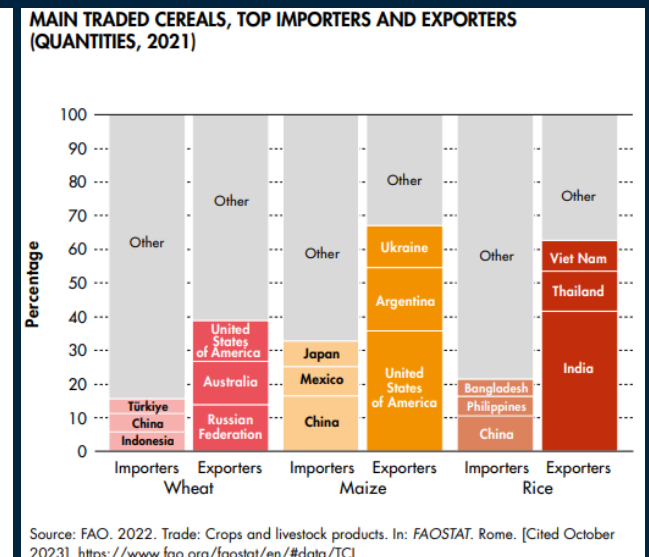
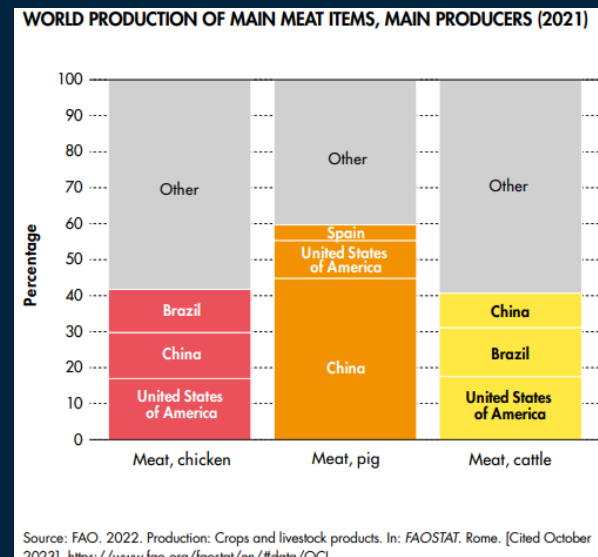
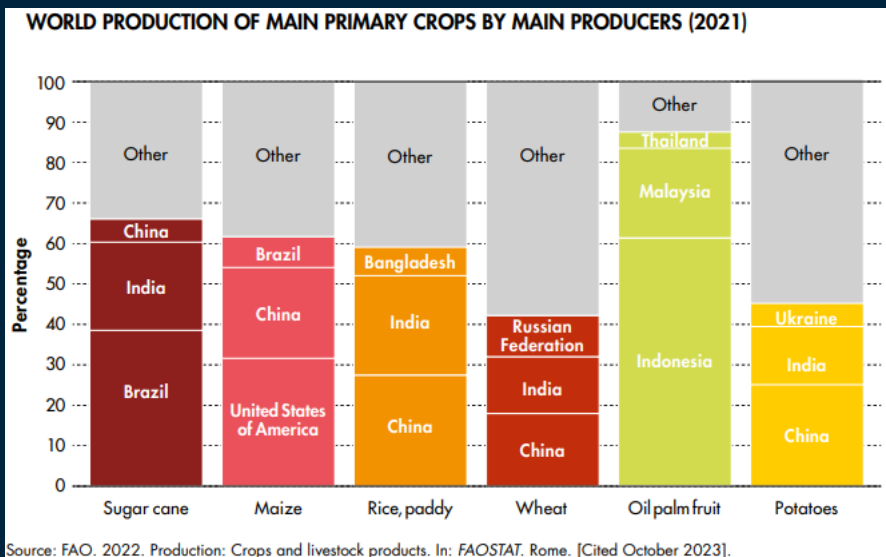
The heavy concentration of food supply from a limited number of key countries makes the global food system particularly vulnerable to disruptions; any significant issue in one of these suppliers can quickly impact global food availability and prices.

- **United States:** Major exporter of grains (corn, soybeans, wheat), meat, and processed foods.
- **Brazil:** Known for exports of soybeans, sugar, coffee, beef, and poultry.
- **Argentina:** Large exporter of soybeans, maize, wheat, and beef.
- **European Union (particularly France, Germany, and the Netherlands):** Exports dairy products, meat, wheat, and processed foods.



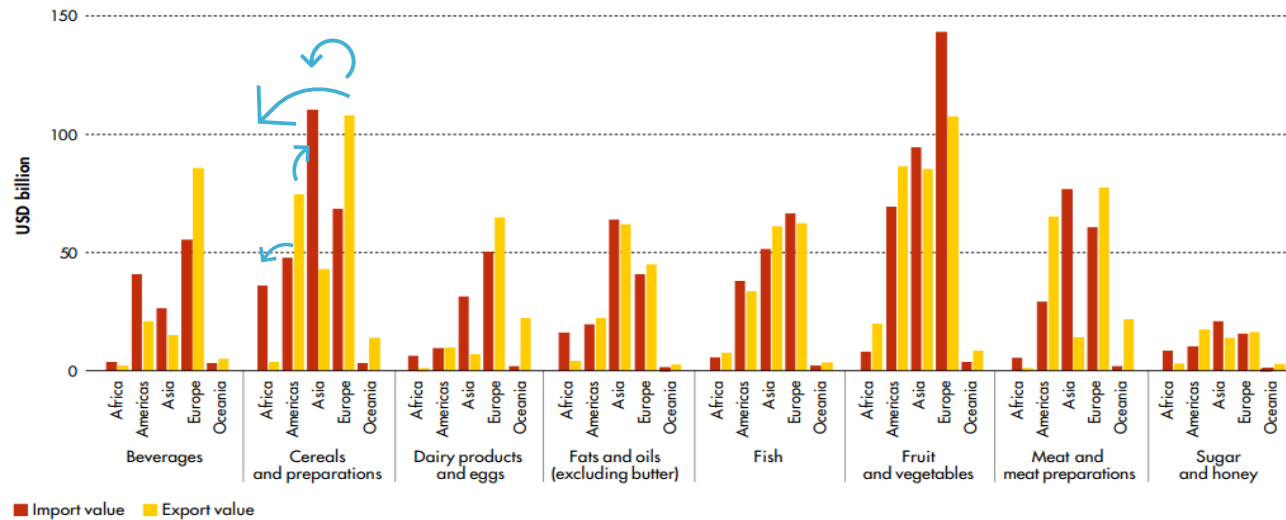
Brazil's 2023 Drought:

Persistent dry conditions impacted key agricultural areas, delaying soybean planting, which could reduce yields and disrupt corn production. Additionally, low water levels along Brazil's "Northern Arc" transportation routes forced barges to reduce shipment volumes, slowing soybean exports and raising global prices.



Critical Chokepoints in Global Food Trade

FOOD IMPORTS AND EXPORTS BY MAIN GROUPS AND REGION (2021)



Note: Values for fish exclude trade of aquatic mammals, crocodiles, alligators and caimans, fishmeal, fish oil, ornamental fish, fish for culture and algae.

Source: FAO. 2022. Trade: Crops and livestock products. In: FAOSTAT. Rome. [Cited October 2023]. <https://www.fao.org/faostat/en/#data/TCL> and FAO. 2023. Fisheries and Aquaculture: Global aquatic trade - All partners aggregated Value (1976 - 2021). In: FAO. Rome. [Cited October 2023]. https://www.fao.org/fishery/statistics-query/en/trade/trade_value

Global Chokepoints: Essential shipping routes

- **Suez Canal:** A key transit point connecting Europe, Asia, and the Middle East
- **Straits of Malacca:** linking the Indian and Pacific Oceans
- **Panama Canal:** Connects the Atlantic and Pacific Oceans

Local Chokepoints: Important regional bottlenecks

- **Brazil's Ports** (e.g., Santos and Paranaguá) and **Northern Arc** river ports (e.g., Tapajós and Madeira) for soy and corn exports
- **Mississippi River, U.S.:** a major artery for U.S. grain exports
- **Black Sea Ports:** essential for wheat and sunflower oil exports from Russia and Ukraine



Mississippi River 2023 Drought:

Prolonged drought conditions in 2023 forced Mississippi River barges to operate at reduced capacities, leading to higher transportation costs. Barge freight rates from St. Louis soared to over \$27 per ton, marking a 57% increase above the three-year average.

FOOD LOSS PERCENTAGE BY REGION



Source: FAO. 2023. SDG Indicators. In: FAOSTAT. Rome. [Cited October 2023]. <https://www.fao.org/faostat/en/#data/SDGB>



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Strategies for Building Resilience in Food Supply Chains



Proactive Risk Management

- Identify and monitor risks specific to key sourcing countries and critical chokepoints
- Invest in continuous risk monitoring and forecasting to anticipate disruptions
- Implement seasonal planning to manage capacity in high-demand periods effectively



Robust Contingency Plan

- Establish pre-defined mitigation measures and alternative transport routes to enable swift response during disruptions
- Build a long-term strategy focused on flexible and diversified sourcing to reduce reliance on single points of supply.



Partnerships with Logistics Service Providers (LSPs)

- Leverage LSPs' expertise for insights into transportation and logistics risks
- Collaborate with LSPs on alternative solutions during crises
- Secure space and prioritize collaboration with LSPs to ensure timely delivery, minimizing food loss



Thank YOU



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