



Conflict in the Middle East and Implications for Asian Food Security

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Based on analysis and reports by
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Conflict in the Persian Gulf

- Attacks on Iran by US and Israel and counter-attacks by Iran on US allies in Middle East has roiled energy and fertilizer markets and disrupted shipping in Persian Gulf.
- Region is highly dependent on imports for grains, oilseeds and other foodstuffs.
- Large exporting region for energy and fertilizer.



Reuters

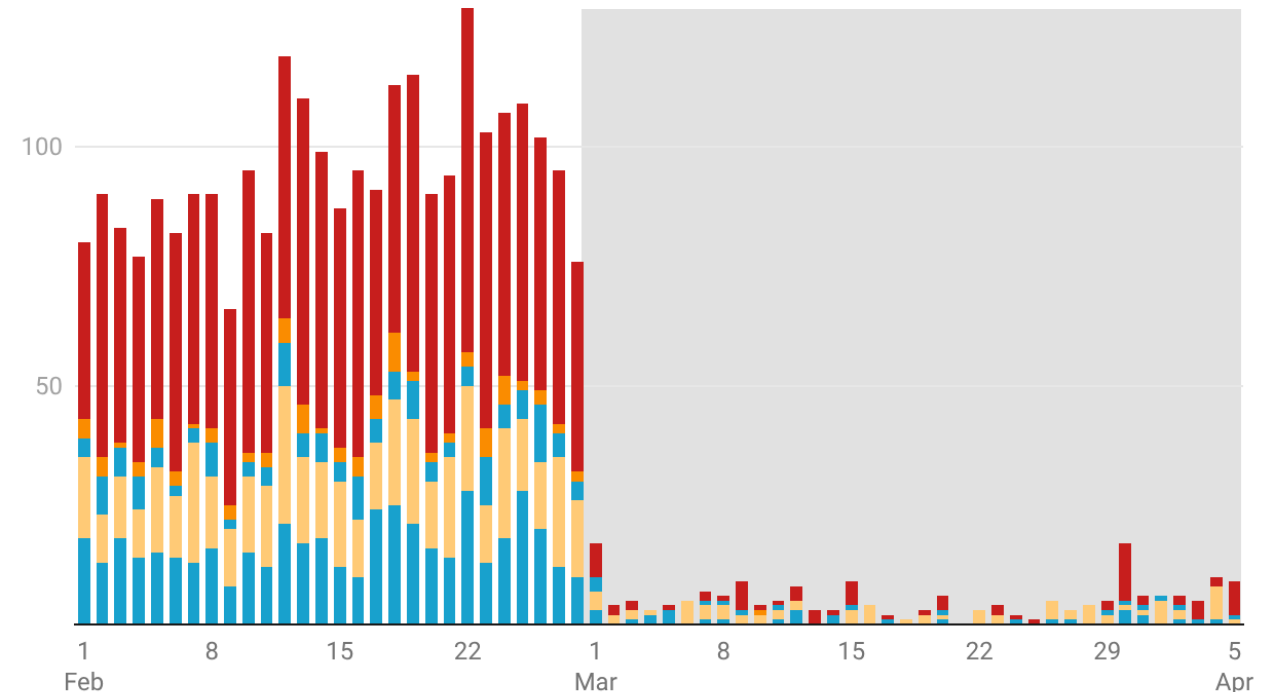
Disruption in oil and fertilizer markets

- Straits of Hormuz:
 - 27% of world oil exports
 - 20% of liquified natural gas exports
 - Nitrogen, Phosphate, Sulphur
- Almost 90% decline in shipping since the attacks began
- Iran allowing some oil tankers to transit
- Will ceasefire last—how quick is the recovery

Arrivals of ships through Strait of Hormuz

Number of ships

Container Dry Bulk General Cargo Roll-on/roll-off Tanker



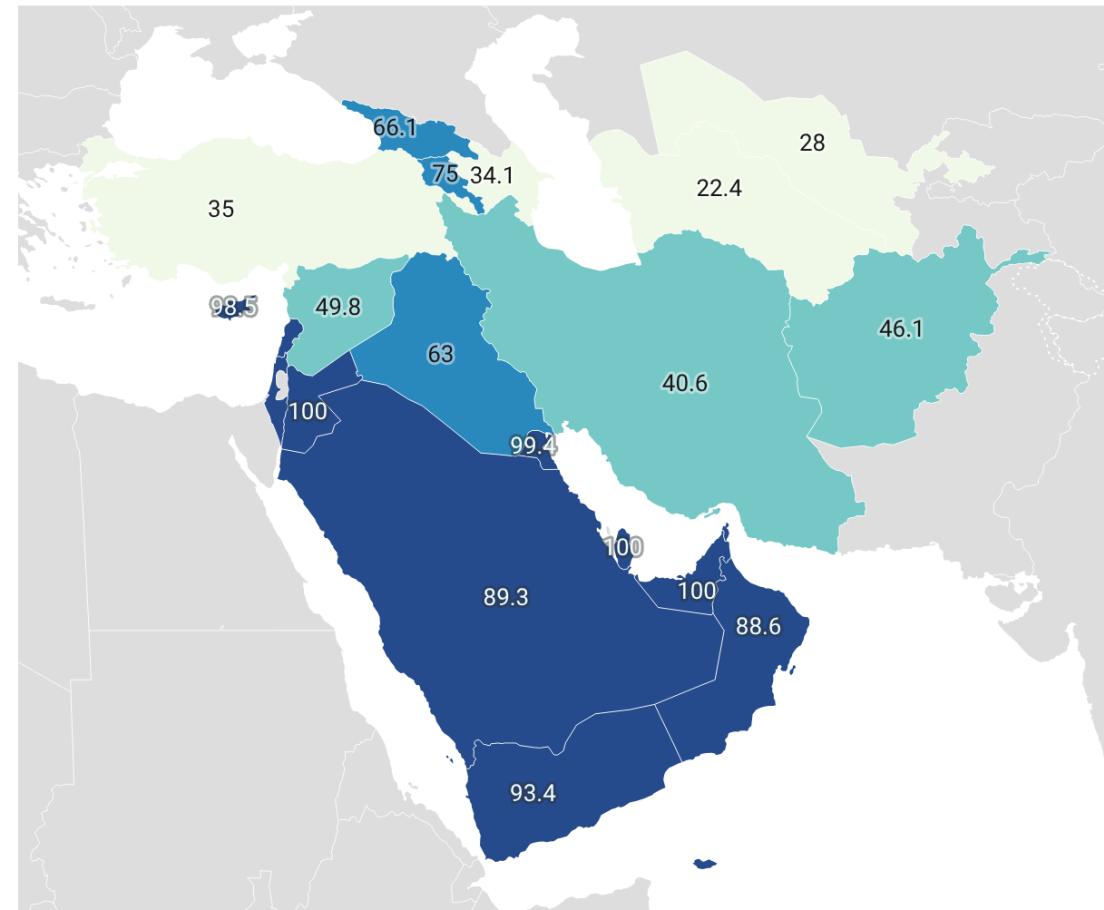
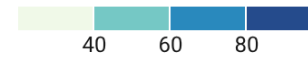
IMF Portwatch database

Implications for regional food security

- High dependence on imports to meet grain and oilseed needs.
- Much of the imports transit to the region via the Straits of Hormuz
- Alternative routes:
 - Saudi Arabia—Suez Canal
 - Iraq via Turkey/Syria
 - Iran via Caspian Sea
- Implications beyond Gulf

Cereal import dependence in Persian Gulf Region

Percentage



2021-2023 average

Source: FAOSTAT

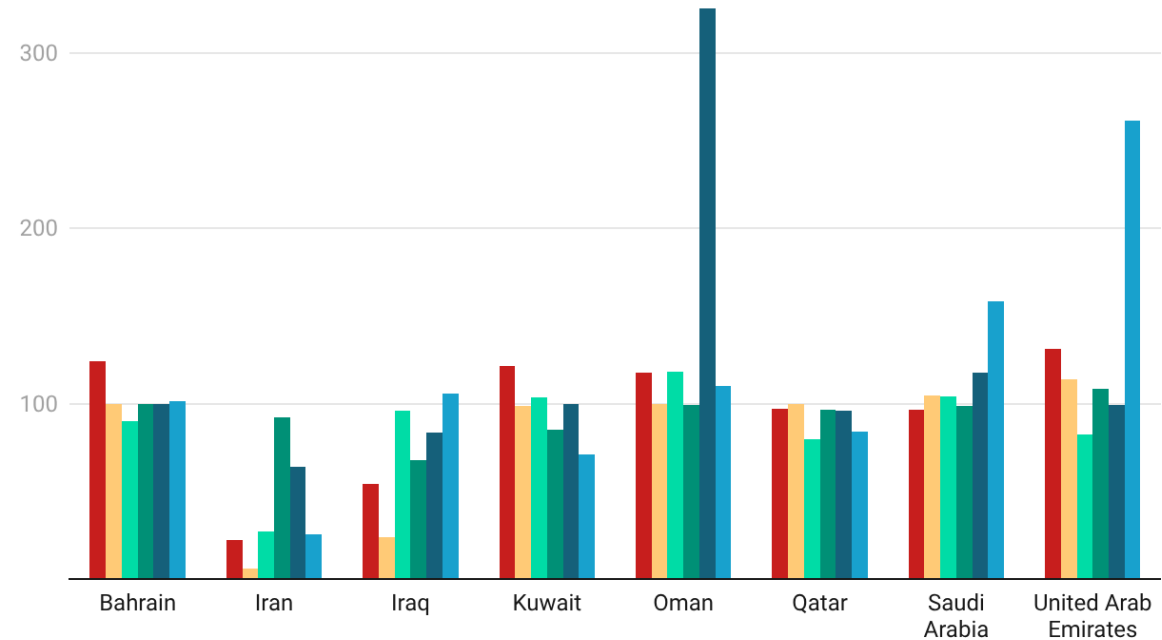
Agricultural Imports in Region

- Import penetration is near 100% for many countries (Iran and Iraq the exceptions).
- Number of countries import agricultural goods for further processing and re-export.
 - UAE, Saudi Arabia-sugar
 - Bahrain, Kuwait, UAE-wheat
 - Oman, Saudi Arabia-vegetable oils

Imports as a share of domestic supplies, 2023

Percentage

■ Wheat ■ Barley ■ Rice ■ Maize ■ Vegetable oils ■ Sugar



Vegetable oils include palm oil, rapeseed oil (canola), soybean oil and sunflowerseed oil. Sugar is on a raw equivalent basis.

Source: FAOSTAT

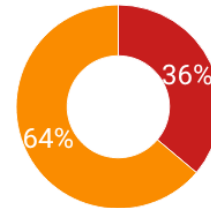
Impacts on Fertilizer Markets

- Straits of Hormuz:
 - 36% of global urea
 - 29% of anhydrous ammonia
 - 25% of DAP
 - 13% of MAP

Share of selected fertilizer product imports originating from the Persian Gulf

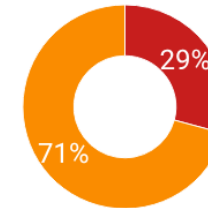
Metric tons

■ Persian Gulf
■ Rest of world



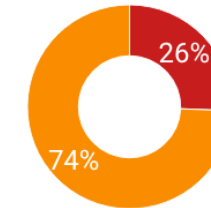
Urea

Total:
25M



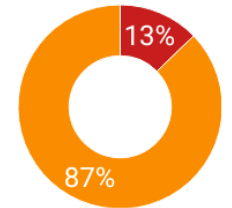
Anhydrous ammonia

Total:
12.1M



DAP

Total:
12.5M



MAP

Total:
11.6M

Averaged over 2023-2025. Persian Gulf countries include Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates.

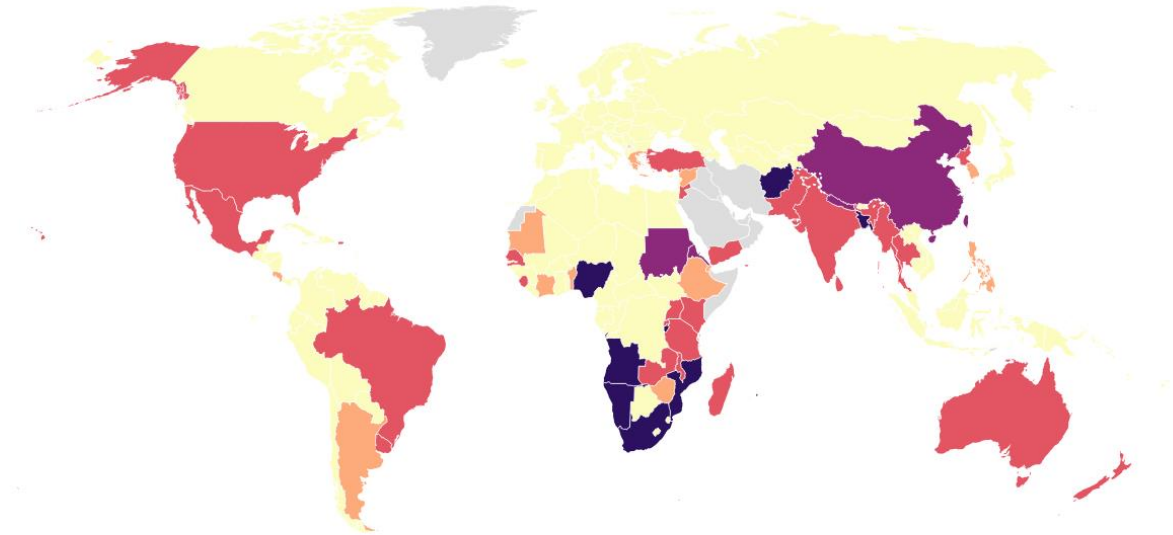
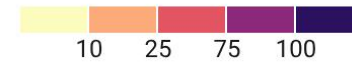
Source: TDM

Dependence of World on Persian Gulf for Fertilizers

- Several countries depend heavily on fertilizer imports from Persian Gulf.
- As in Ukraine war, importers may find alternative sources but at significantly higher prices

Share of nitrogenous fertilizer imports from Persian Gulf, 2023

Percentage



Persian Gulf includes Bahrain, Iraq, Iran, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. Fertilizers converted to N equivalents.

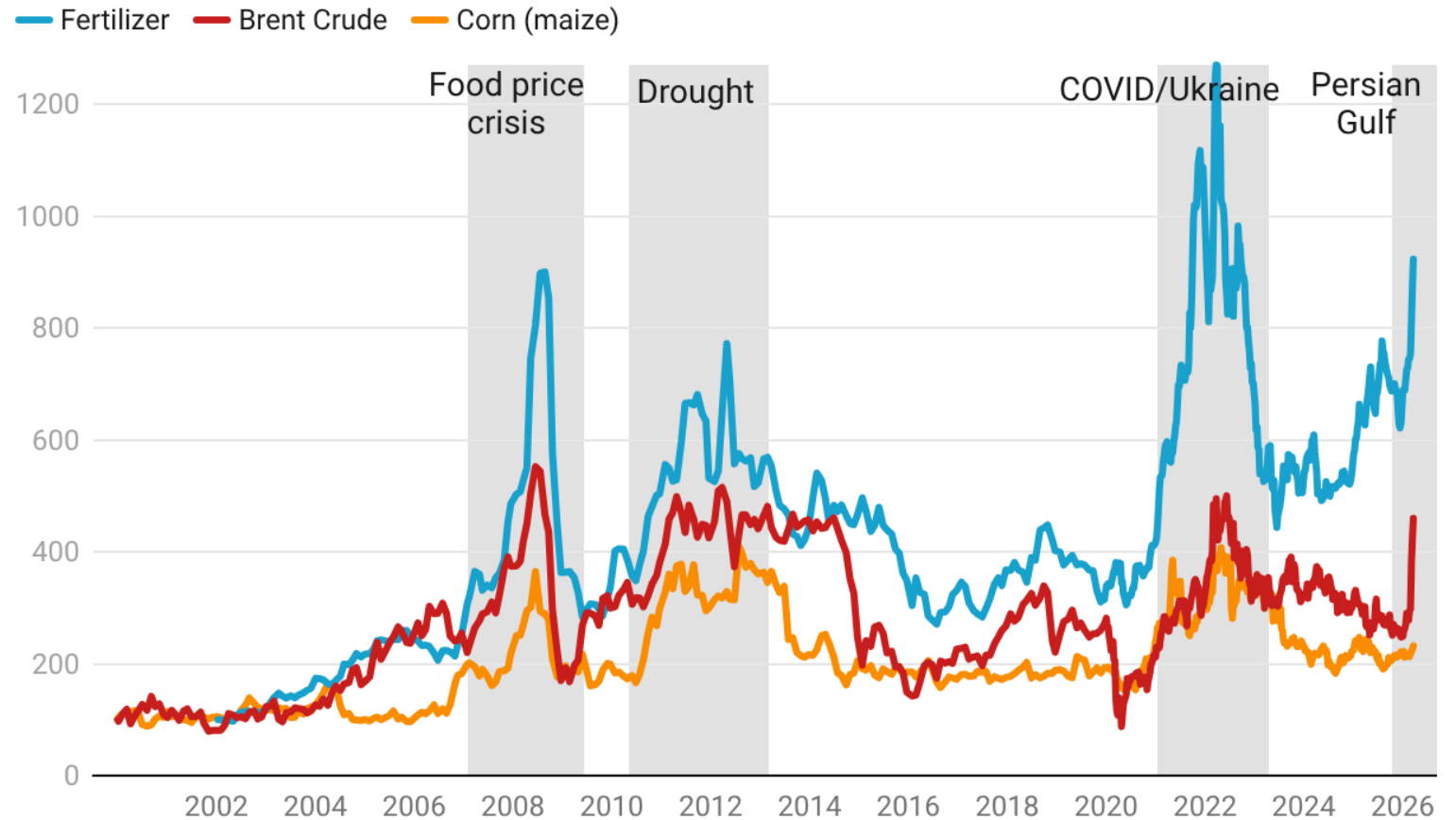
Source: FAOSTAT

Prices

- Energy and fertilizer prices rise following closure of the Strait of Hormuz
- Crop price movements remain constrained - at least for now

Energy, grain and fertilizer price movements

January 2000 = 100



Source: Bloomberg

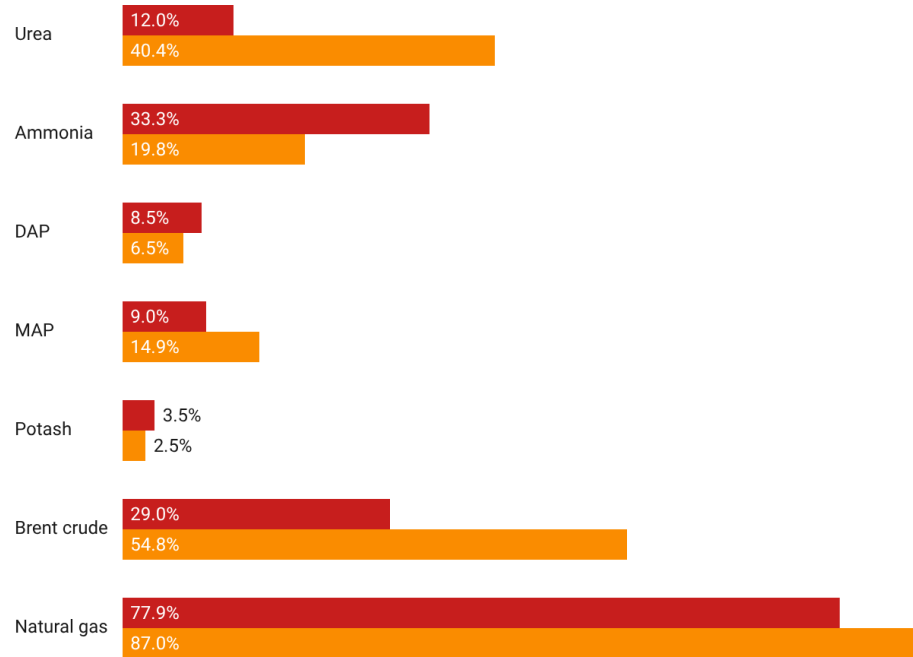
Impact on prices – comparison with Ukraine war

Energy, fertilizer, grains and oilseeds

2022 Ukraine war versus 2026 Iran war: fertilizer and energy price impacts

Price change (%)

■ 2022 Ukraine war ■ 2026 Iran war



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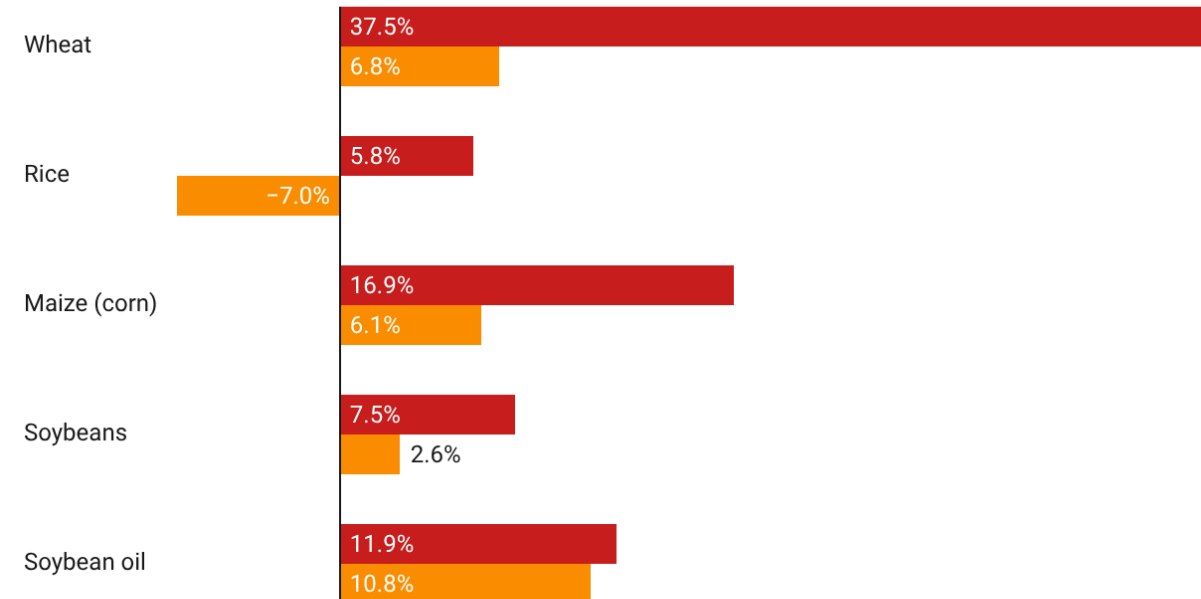
Price impacts after first three weeks of war.

Source: Authors calculations using data from CME Group, Bloomberg, S&P Global Trade Atlas and Green Markets

2022 Ukraine war versus 2026 Iran war: grain and oilseed price impacts

Price change (%)

■ 2022 Ukraine war ■ 2026 Iran war



Price impacts after first three weeks of war.

Source: Authors calculations using data from CME Group, Bloomberg, S&P Global Trade Atlas and Green Markets

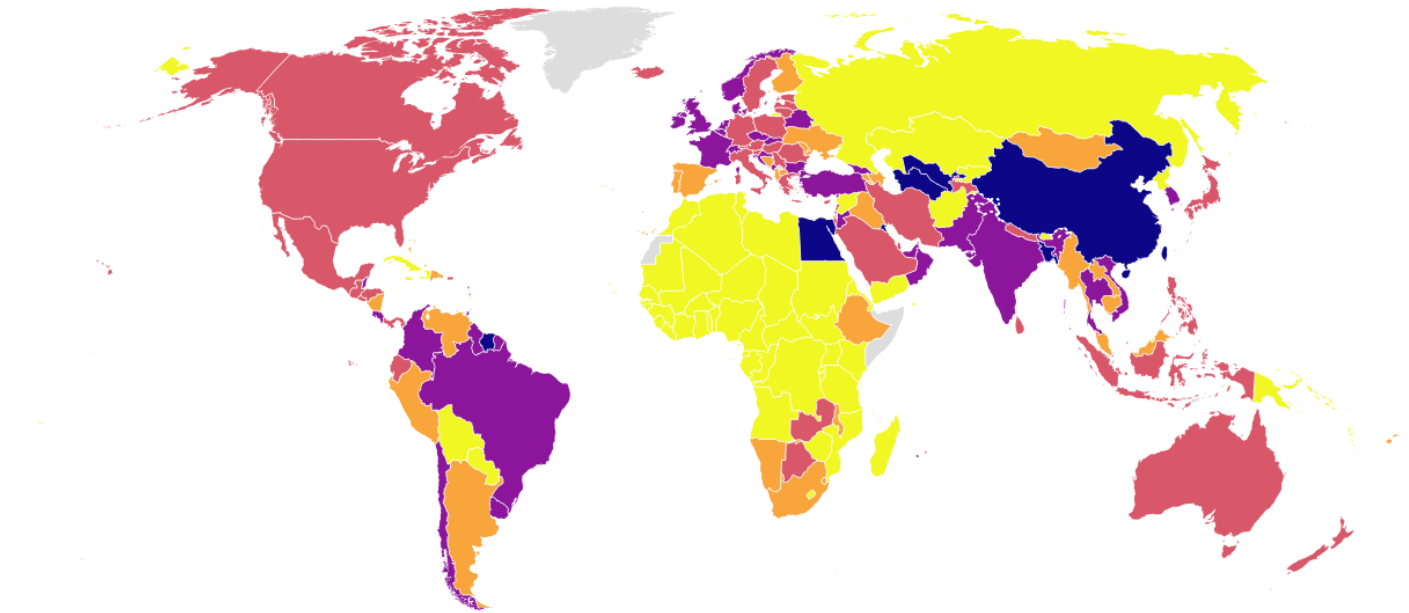
Impacts on production?

- Sustained increase in fertilizer prices could result in decrease in nitrogen-intensive crops (wheat, maize, rice) in favor of oilseeds and less intensive crops.
- Lower crop margins could lead to lower application rates => productivity loss?

Agricultural nitrogen use, 2023

Kg/ha

■ < 25 ■ 25-50 ■ 50-75 ■ 75-150 ■ ≥ 150



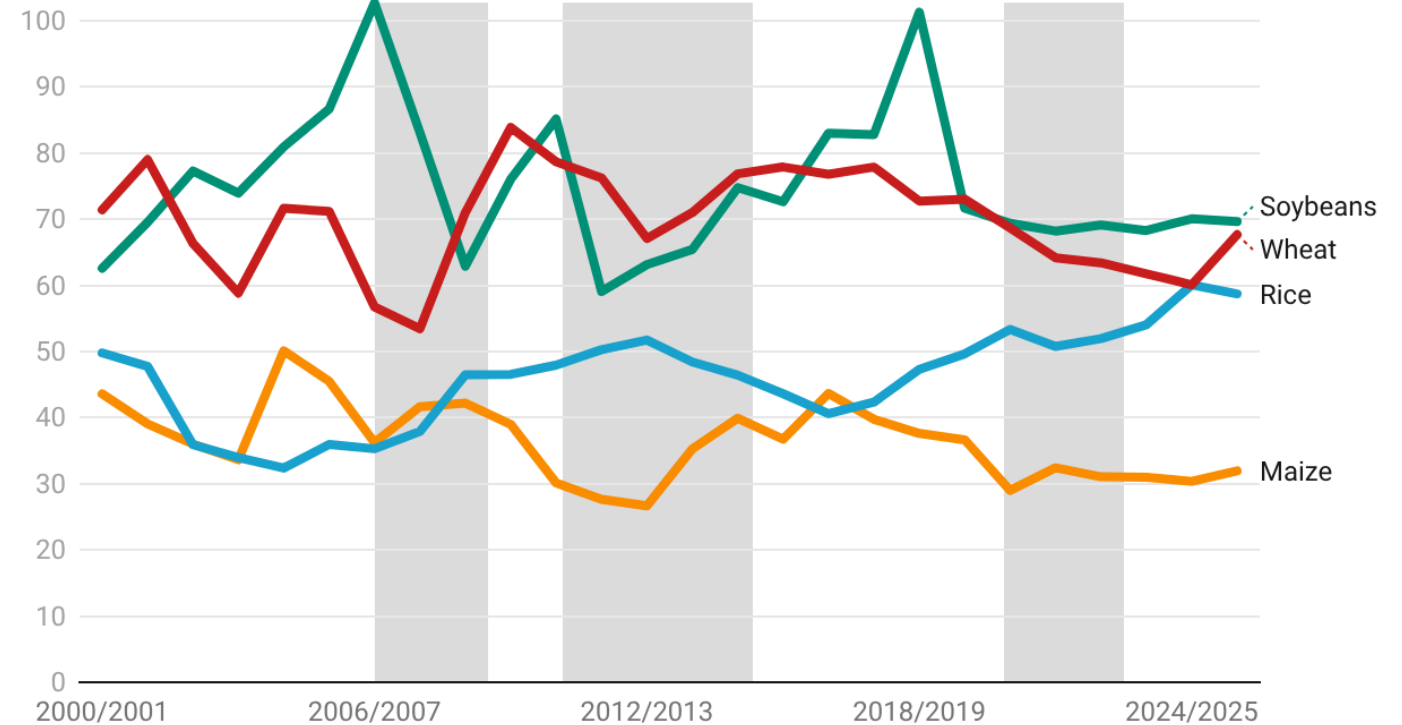
Source: FAOSTAT

Global stock levels of crops

- Global grain and oilseed stocks are substantial, particularly rice and wheat
- Some tightening in maize (corn) but above 2012 and 2021 levels

Global ending stocks

Days of use



Days of use = Total ending stocks (ex China) x 365 / global use

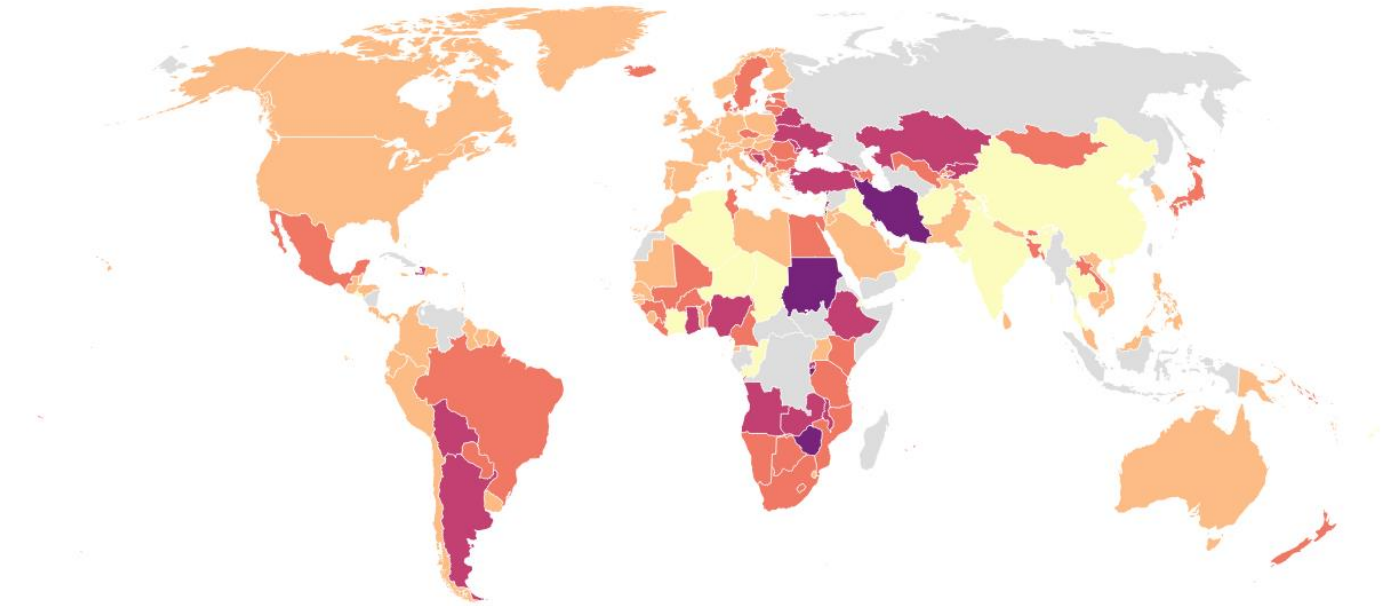
Source: USDA, Foreign Agricultural Service PSD online

Food price inflation

- Sustained higher energy and shipping costs would likely fuel higher consumer prices.
- Energy costs are embedded throughout the food value chain (farm, transportation, processing, refrigeration, etc)
- Could reignite food inflation concerns.

Food price inflation, June 2025

Year-over-year change in food prices (%)



Source: FAOSTAT

Impacts of higher fuel and fertilizer prices on production, trade, and welfare in selected Asian countries

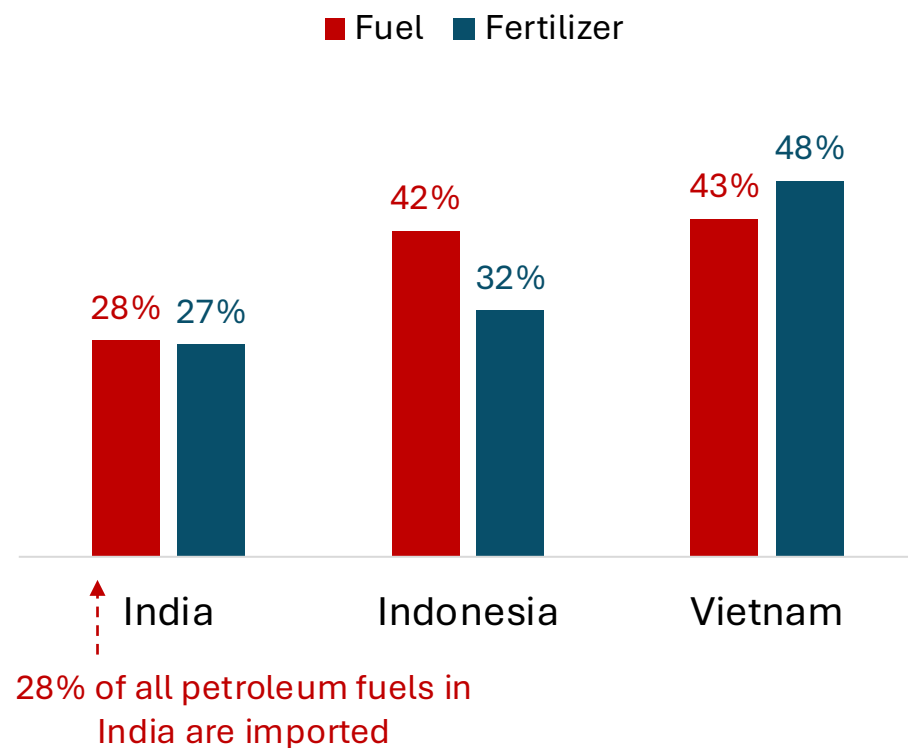
Model the economywide impacts of higher world prices.

Assumptions:

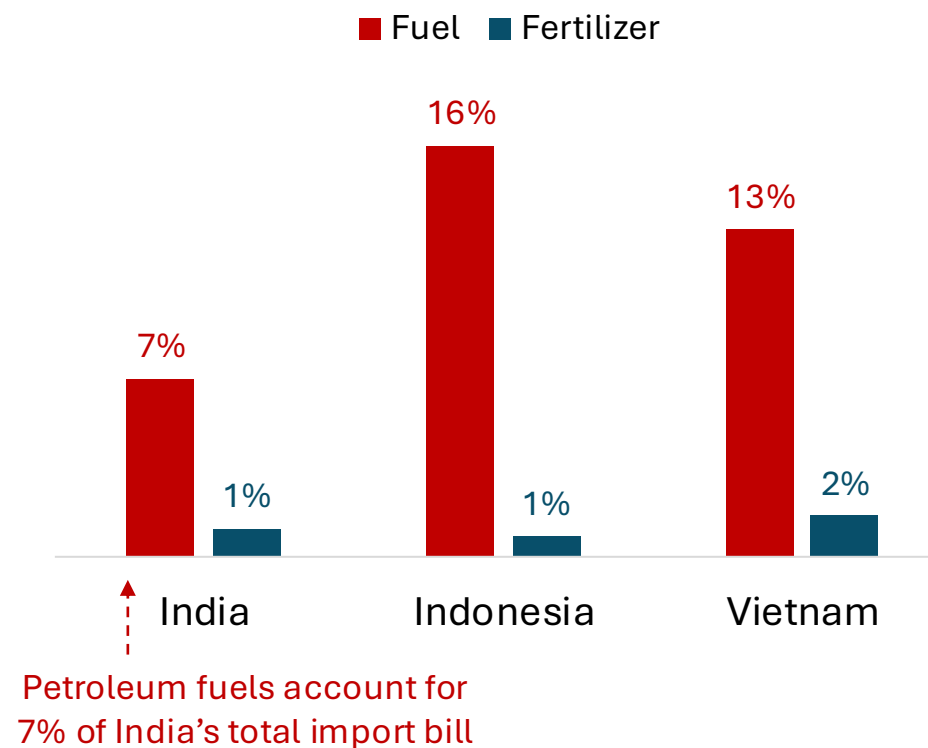
- Fuel +28%
- Fertilizer +25%
- Price increases persist this year (2026)

Country analysis | Trade exposure

Imports as a share of total supply

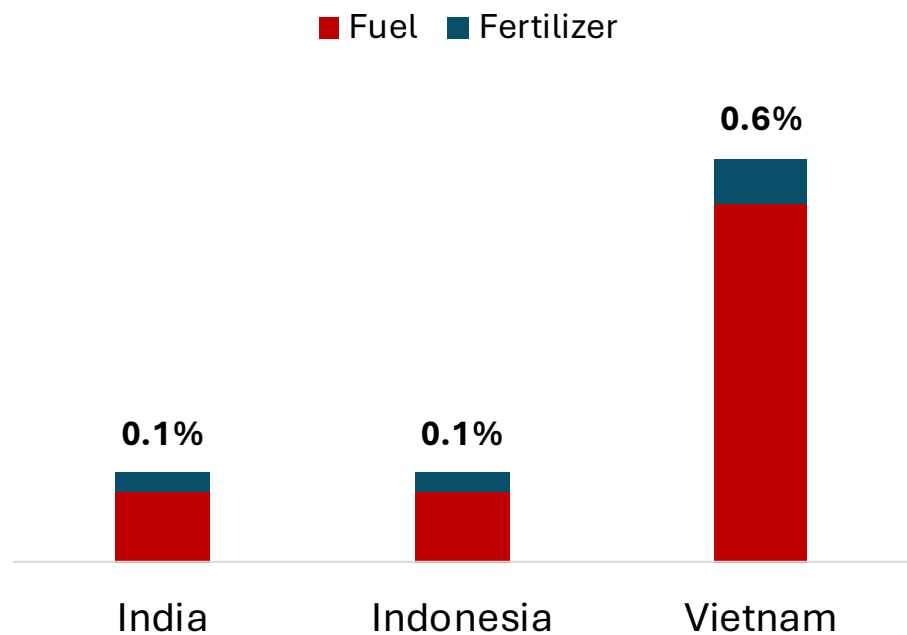


Share of total import costs



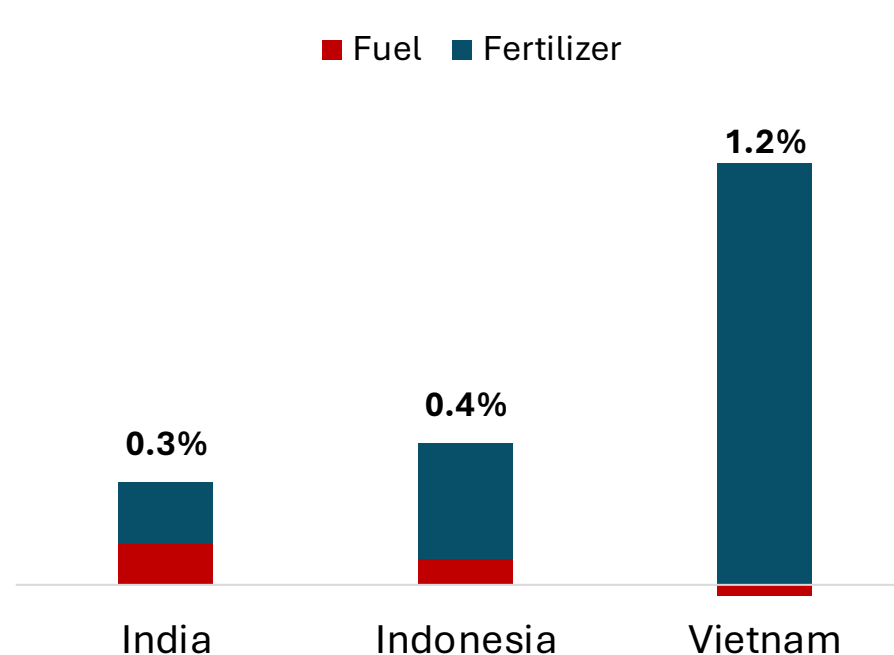
Country analysis | Impacts on incomes

Decline in national income (GDP)



Almost all the 0.6% decline in GDP in Vietnam is due to higher fuel prices

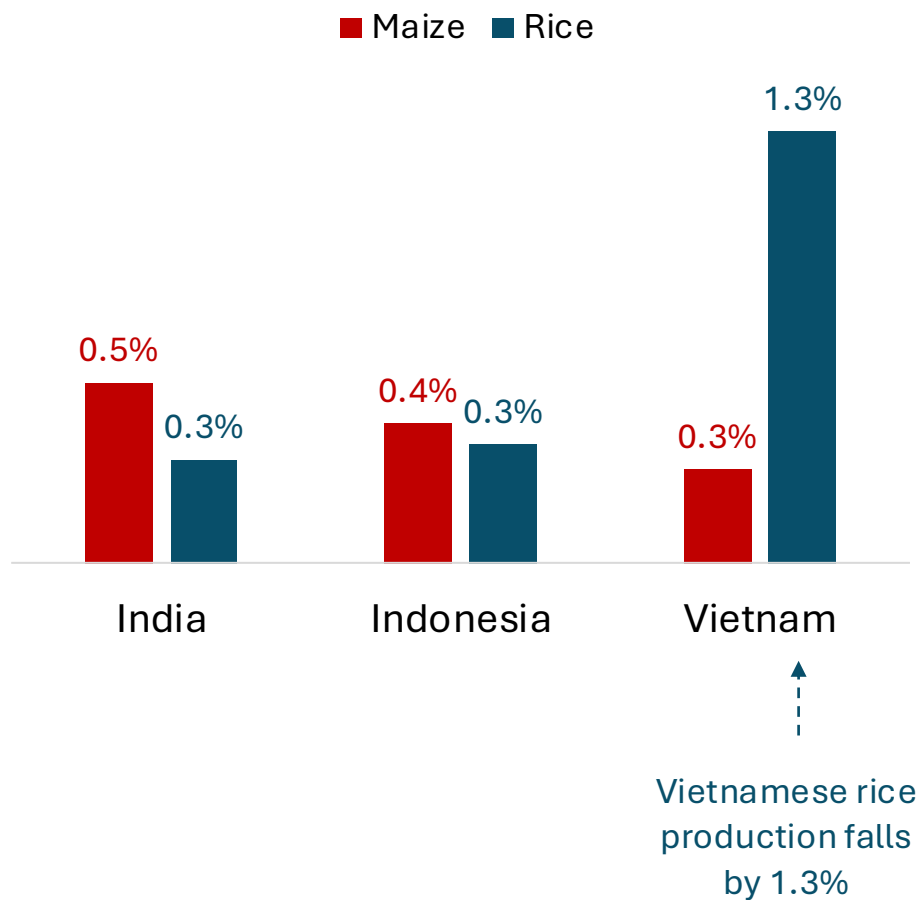
Decline in crop income (GDP)



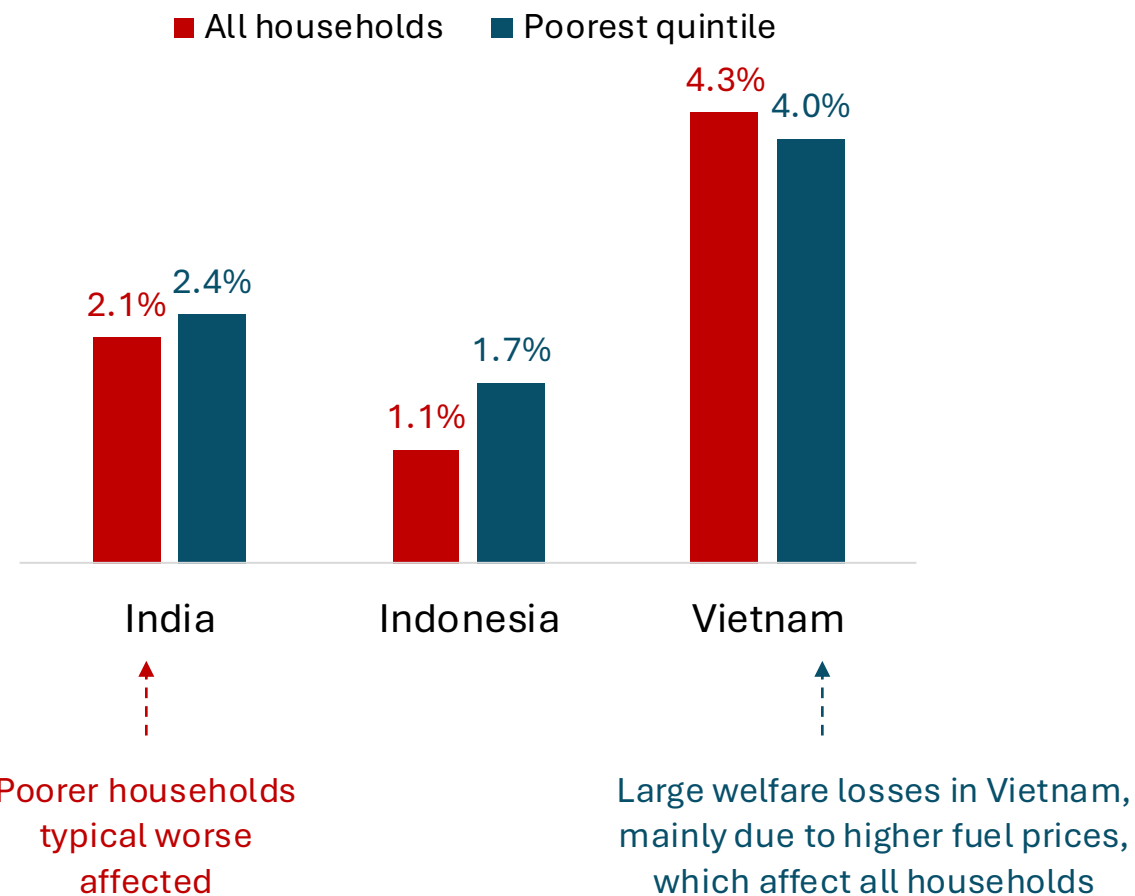
All the 1.2% decline in crop GDP in Vietnam is due to higher fertilizer prices

Country analysis | Impacts on production and welfare

Decline in cereals production



Decline in household welfare

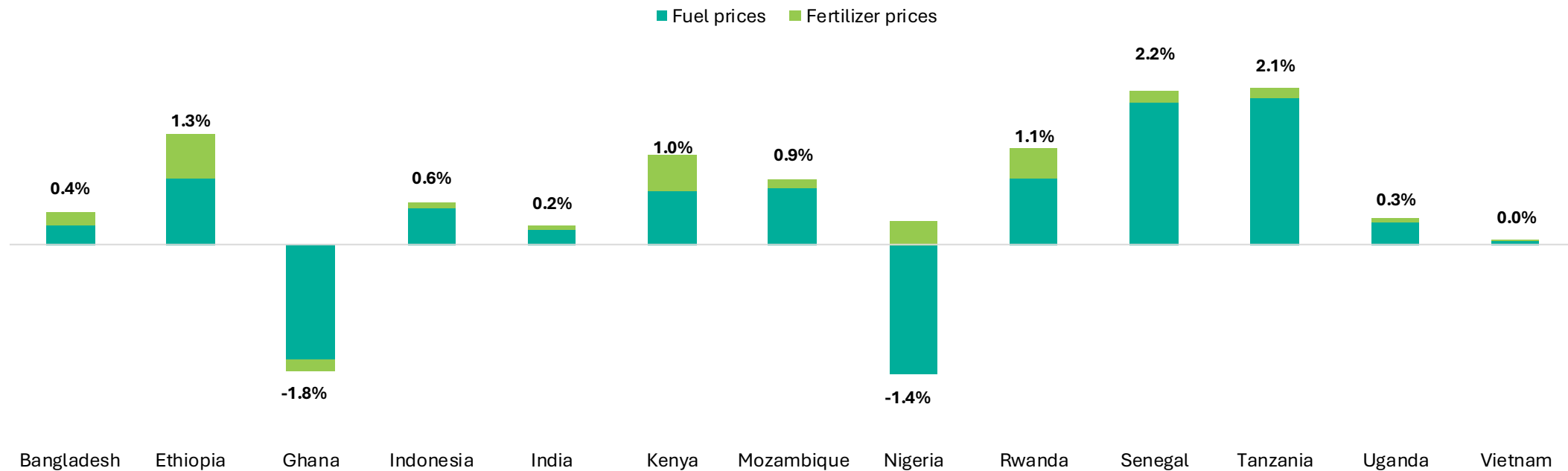


Poverty Impacts

Poverty increases in most of the countries analyzed

- Exceptions include oil-exporting countries that could benefit from higher oil prices (e.g., Ghana and Nigeria)
- Higher fuel prices drive most of the increase in poverty

Change in share of the population living in poverty (%-point) (model results | \$3.00 per day poverty line)



Current Assessment

Global poverty and food insecurity expected to worsen if fuel and fertilizer price increases persist

- Fuel prices drive the expected increase in poverty
- Fertilizer prices are more important for food production
- Some countries could benefit from higher fuel prices

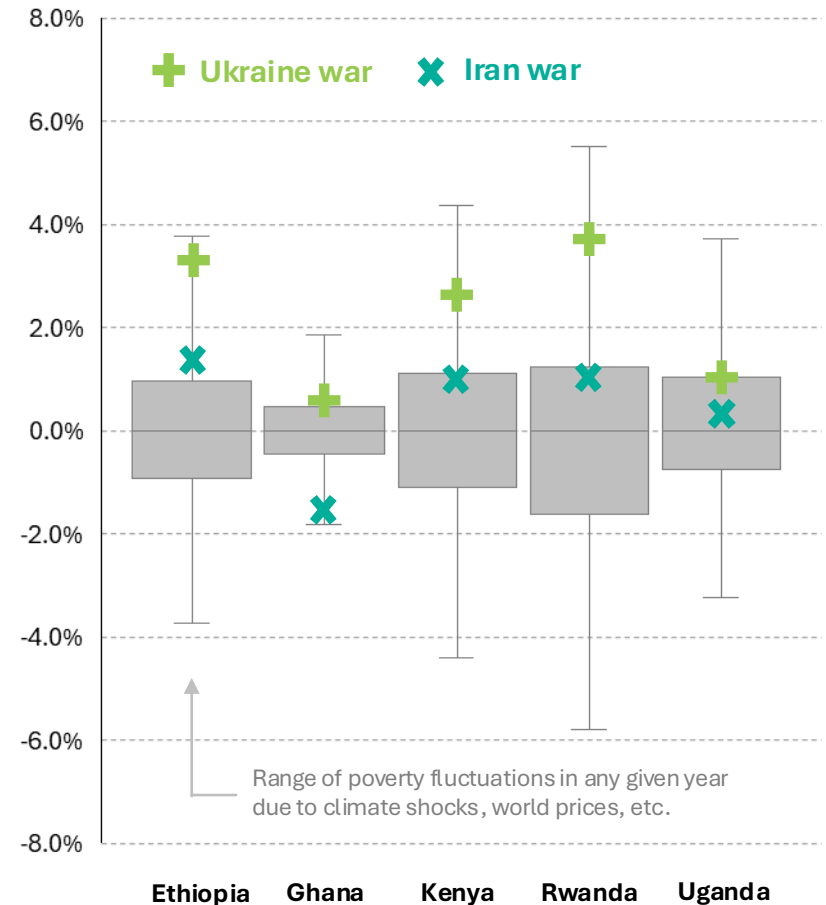
Impacts (current) are smaller than under earlier Ukraine analysis

- Current fuel price increase is larger
- But fertilizer price increase is less than half the 2022 spike
- Food prices have not (yet) been significantly impacted

Fertilizer and food price changes still emerging

- Urea production is paused parts of Middle East
- Fertilizer export bans could shift assessment
- Planting seasons and government fertilizer purchases vary

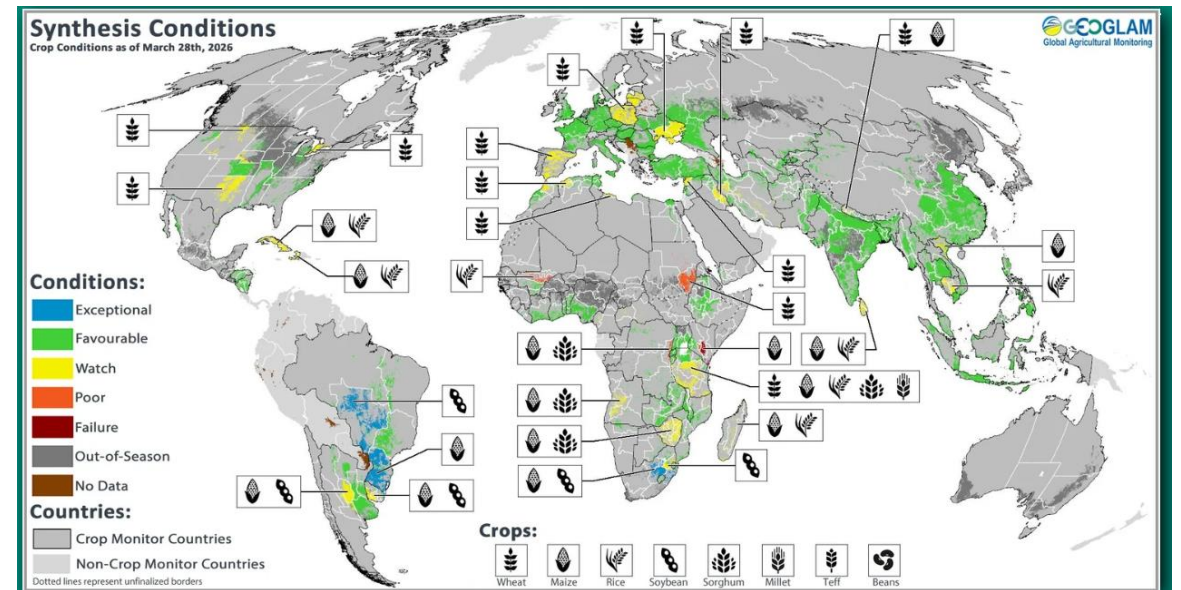
Change in share of population living in poverty (%-point)



Source: Ukraine analysis ([link](#)) and Risk Profiles ([link](#))

Caveats and uncertainties

- Prolonged closure of the Strait and/or expanded conflict beyond the Gulf
- Large increase in biodiesel production in response to high oil prices
- Export restrictions by major fertilizer exporters (eg, Russia, China)
- Drought affecting major production regions
- El Nino in 2026





Thank you for your attention

For more information, see:

www.ifpri.org

www.foodsecurityportal.org

- **Special Blog Series**
 - *on conflict and food security*
- **Special Indicator Series**
 - *Food and Fertilizer Export Restrictions Tracker*
 - *Excessive Food Price Volatility Early Warning System*
 - *Staple Food Stock-Use Monitoring System*
 - *Vulnerability Dashboard*
 - *Fertilizer Market Dashboard*
 - *Food security and nutrition dashboard*



FOOD PRICE WATCH

Volatility Warning Commodity Prices COVID-19 Price Monitor

Commodity	Days in High Volatility
HARD WHEAT (4/14/2022)	156
SOFT WHEAT (4/14/2022)	143
MAIZE (4/14/2022)	32
SOYBEAN (4/14/2022)	130
RICE (4/14/2022)	32
COTTON (4/14/2022)	184