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ENERGY SHOCK ESCALATES INTO FOOD CRISIS: HARVESTS UNDER PRESSURE AMID U.S.–IRAN CONFLICT

Executive Summary

- The escalation of the U.S.–Iran conflict has evolved into a systemic global shock with implications extending well beyond energy markets into trade, agriculture and inflation dynamics. The disruption of the Strait of Hormuz, one of the world's most critical energy and logistic corridors, has triggered a sharp rise in oil prices, intensified shipping disruptions, and raise the risk of prolonged supply chain fragmentation.

- More critically, the shock is now transmitting into the global food system through rising fertiliser supply contraints, rising production costs and logistical bottlenecks. This raises the prospect of a broader energy-to-food inflation cycle, with risks potentially exceeding those observed during the Russia–Ukraine conflict.

- For Malaysia, while direct exposure to the conflict remains limited, indirect spillovers are significant. Structural reliance on imported food and agriculture inputs exposes the economy to rising global costs and supply uncertainties. While policy measures may cushion near-term impacts, upstream pressures are building, pointing toward more persistent food inflation risks over the medium term.

Geopolitical Escalation and the Emergence of a Global Supply Shock

- The intensification of military conflict involving the U.S., Israel, and Iran since late February 2026 has significantly elevated geopolitical risks in the Gulf region. The closure of the Strait of Hormuz has disrupted approximately 20% of global oil and LNG flows and triggering a surged in global energy prices and increasing volatility across financial markets.

- At the same time, maritime security risks have forced vessels to reroute via the Cape of Good Hope, extending transit times by up to 10-20 days. This has increased fuel consumption, freight costs, and insurance premiums, tightening global shipping capacity and creating widespread logistical bottlenecks.

- The current crisis has moved beyond a temporary geopolitical shock into a prolonged supply disruption, with cascading effects across energy, logistics, and commodity markets. The longer the Strait of Hormuz remains constrained, the greater the risk of systemic spillovers.

- Recent market intelligence suggests that conditions in the Straits of Hormuz remain far from stabilized, despite intermittent signs of reopening. Vessel traffic through the strait has deteriorated sharply, with weekly transits falling to just 36 in week 17, down from 77 in the preceding week.

- More notably, over 80% of the limited energy shipments still moving through the corridor are now carried by so-called "shadow fleet" vessels, underscoring the elevated risk environment and reluctance among mainstream operators to transit the route. This suggest the brief resumption of activity was largely temporary, rather than indicative of a sustained recovery in maritime flows.

- At the same time, the operational environment in the Gulf is becoming increasingly militarized. The U.S. has initiated "Project Freedom," involving active naval escort of merchant vessels and oil tankers out of the Persian Gulf. Rather than signalling de-escalation, this development points to a formalisation of risk management in the region, reflecting heightened concerns over the safety of critical shipping lanes.
- Iran has responded by asserting its own authority over the Strait, requiring vessels to coordinate with its military force.
- This evolving standoff indicates a more structured and persistent geopolitical tension, raising the risk that disruptions to maritime trade may become entrenched rather than temporary.

Chart 1: Maritime security risks have forced shipping reroutes via the Cape of Good Hope

Sources: OpenFreeMap, Bloomberg, CEIC Data, Bank Islam

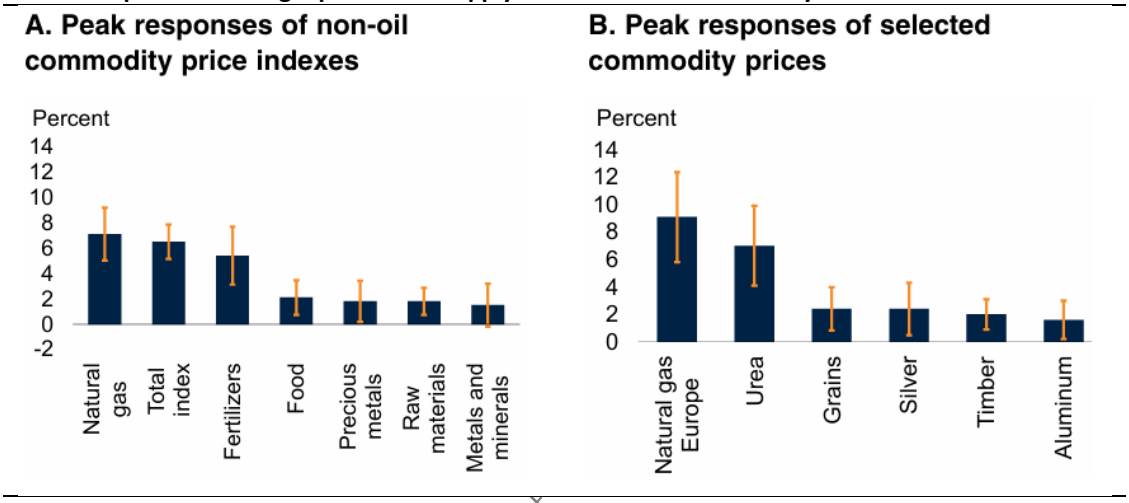
The Strait of Hormuz: A Critical Nexus for Energy and Agriculture

- While the Strait of Hormuz is widely recognised for its importance in global energy markets, its role in agriculture is equally critical but often underappreciated. The region accounts for a substantial share of global fertiliser exports, including urea, ammonia, and phosphate-based products that are essential for crop production.
- The disruption of this corridor has led to a sharp contraction in fertiliser shipments, tightening global supply and driving prices higher. Given the central role of fertilisers in modern agriculture, this represents a key transmission channel through which energy shocks propagate into the food system.
- In addition, the Strait facilitates the movement of natural gas and sulphur, both critical inputs in fertiliser production, further reinforcing its importance as a convergence point between energy and food supply chains.

- As such, disruptions in this region do not only raise energy costs but also threaten the stability of global agricultural production.
- The Strait of Hormuz represents a single-point vulnerability where disruptions simultaneously affect (i) energy supply, (ii) fertiliser production and (iii) agricultural output. This convergence amplifies the risk of an energy shock evolving into a global food crisis.

Transmission Channels: From Energy Shock to Food Inflation

Chart 2: Spillovers from geopolitical oil supply shocks to other commodity markets



Sources: Commodity Market Outlook, April 2026, World Bank

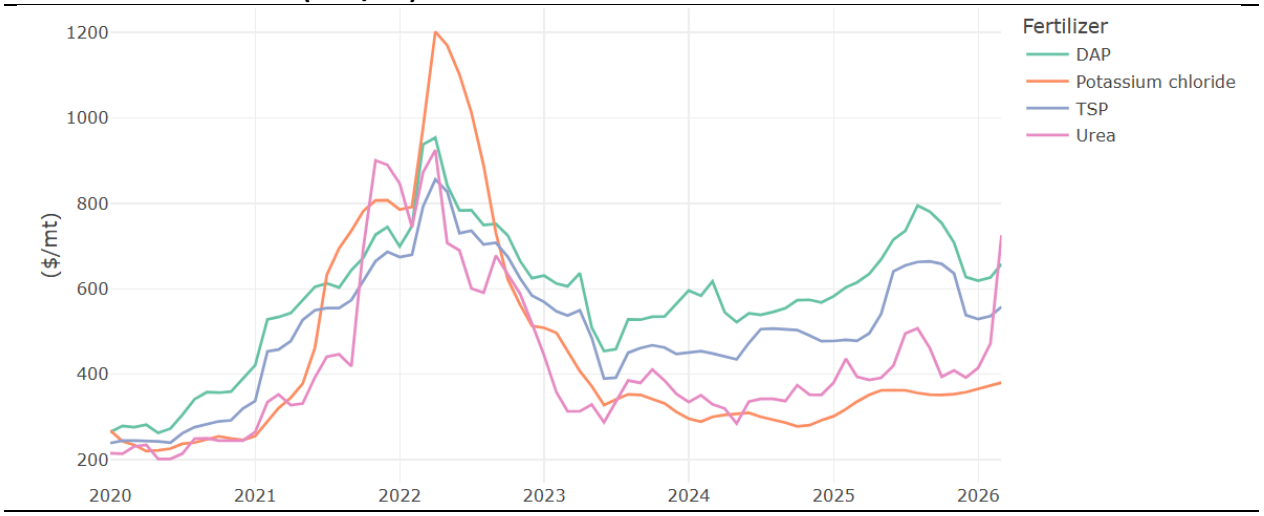
- Historically, geopolitical oil supply shocks have often spilled over into broader commodity markets, driving sharp price increases, particularly on oil-intensive commodities like natural gas and fertilizers. The World Bank, in its April Commodity Markets Outlook, estimates that a 1.0% decline in oil production linked to a geopolitical shock typically results in an 11.5% increase in oil prices. It further notes that a 10.0% oil price increase from such a shock has led to natural gas prices rising about 7.0% within 11 months, and fertilizer prices climbing just over 5.0% within 12 months.
- This analysis shows that natural gas and fertilizers are most affected by geopolitical oil supply shock, with the largest price increases highlighting their strong production complementarities and cost interdependence with crude oil and rapid pass-through along supply chains.
- The gradual response to an oil price spike reflects transmission lags through production, contract structures, and input costs. This also shows that the economic effects of large geopolitical oil supply shocks can persist well beyond the initial surge, even if oil prices themselves retreat relatively quickly.
- Oil price shocks spill over into other commodity markets through several reinforcing channels including:
  - joint production linkages mean that disruptions in oil supply often reduce natural gas output since reserves are co-located

- pricing linkages persist where some gas contracts remain tied to oil prices
- substitutions effects arise as higher oil prices increase demand for alternatives such as biofuels, coal, and natural gas, which in turn lift agricultural input cost
- broad cost-push pressures emerge because energy is a key input in transport, processing, fertilizers, and petrochemicals, raising production costs across agriculture, metals, and other sectors.

Together, these mechanisms transmit oil shocks both directly and indirectly into wider commodity price increases.

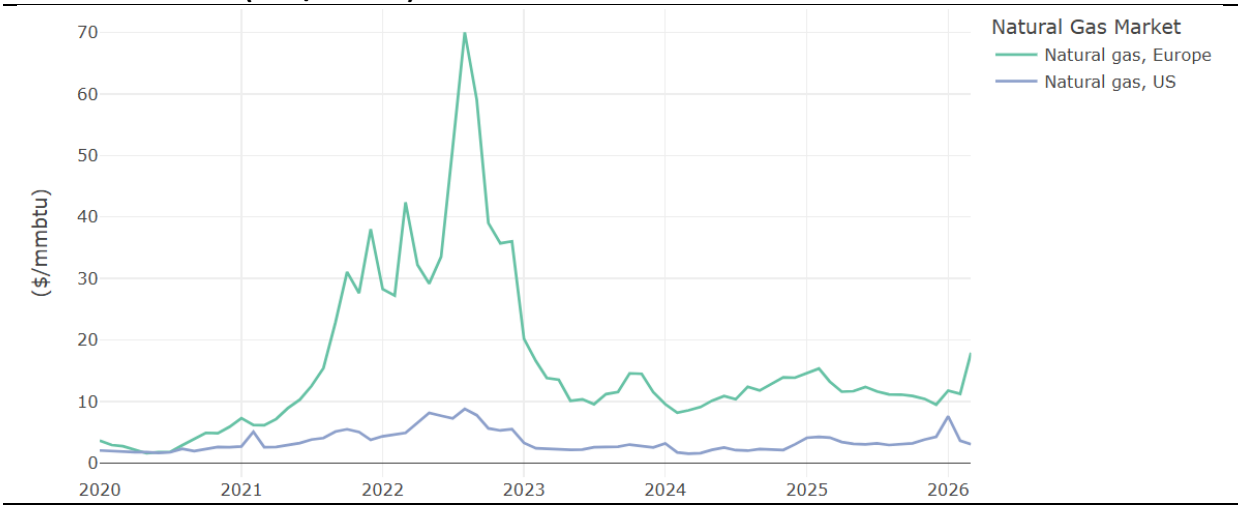
- The current crisis is also propagating through multiple reinforcing transmission channels that link energy markets to food prices.
- First, higher energy prices are driving up fertiliser production costs, particularly for nitrogen-based fertilisers that rely on natural gas. Specifically, urea fertilizer prices surged 83.9% y-o-y to USD725.6/mt in March, driven by a 35.3% y-o-y increase in natural gas costs over the same period (see chart 3 and 4). Second, rising fuel prices are increasing the cost of operating farm machinery, irrigation systems, and harvesting processes. Third, logistics disruptions are raising transportation and shipping costs for agricultural commodities.
- In addition, energy-intensive downstream activities, such as food processing, cold storage, and packaging, are becoming more expensive, amplifying cost pressures across the supply chain.
- These channels collectively create a broad-based cost-push dynamic, where higher input costs are transmitted from production to distribution and ultimately to consumers. Importantly, these effects tend to materialise with a lag, suggesting that the full impact on global food prices may unfold over the coming quarters rather than immediately.
- Developments in freight markets further reinforce the severity of ongoing supply chain disruptions. Liquefied petroleum gas (LPG) freight rates have surged to approximately USD140,000 per day, marking their highest levels since the Panama Canal disruptions in 2023. Similarly, product tanker rates remain around double their pre-conflict levels.
- These price signals from physical shipping markets indicate that logistical constraints are significantly tighter than what is currently reflected in broader financial markets.
- The divergence between physical and financial market pricing suggests that the full extent of supply chain stress may not yet be fully priced into global commodity markets.
- Elevated freight costs directly increase the cost of transporting energy, fertilisers, and food commodities, reinforcing inflationary pressure across the supply chain.
- This dynamic further strengthens the transmission from energy shocks to food price inflation, particularly for import-dependent economies.
- In short, these underlying forces create a broad-based cost-push inflation effect, transmitting pressures across the entire food supply chain.

Chart 3: Fertiliser Prices (USD/mt)



Sources: World Bank Pink Sheet

Chart 4: Natural Gas (USD/mmbtu)



Sources: World Bank Pink Sheet

A Global Fertiliser Shock and Its Impact on Crop Yields

- Beyond immediate cost pressures, the more critical risk lies in the impact on agricultural production and future food supply.
- While the immediate impact of the conflict is evident in rising costs, the more consequential risk lies in its lagged effects on agricultural output. Fertiliser is a critical determinant of crop yields, making disruptions to its availability fundamentally different from other input shocks.
- The current fertiliser shock is both price-driven and supply-constrained. Prices have surged sharply, while physical supply has tightened due to halted shipments and logistical disruptions. This creates acute challenges for farmers, particularly during key planting seasons when fertiliser demand is both time-sensitive and inelastic.

- Unlike in 2022, when high crop prices helped offset rising input costs, current global price conditions provide limited buffer. As a result, farmers are increasingly forced to adjust behaviour—reducing fertiliser usage, switching to lower-cost alternatives, or scaling back planting activity.
- These adjustments carry significant implications. Reduced fertiliser application, particularly for nitrogen-intensive crops, can lead to disproportionate declines in yield and crop quality. Early indications from major agricultural regions suggest that such adjustments are already underway.
- Crucially, the impact of fertiliser shocks is not immediate but delayed. While cost pressures are felt in the short term, the more severe effects emerge in subsequent harvest cycles. This raises the risk that global food supply may tighten more significantly in 2026–2027, creating a more persistent inflation cycle.

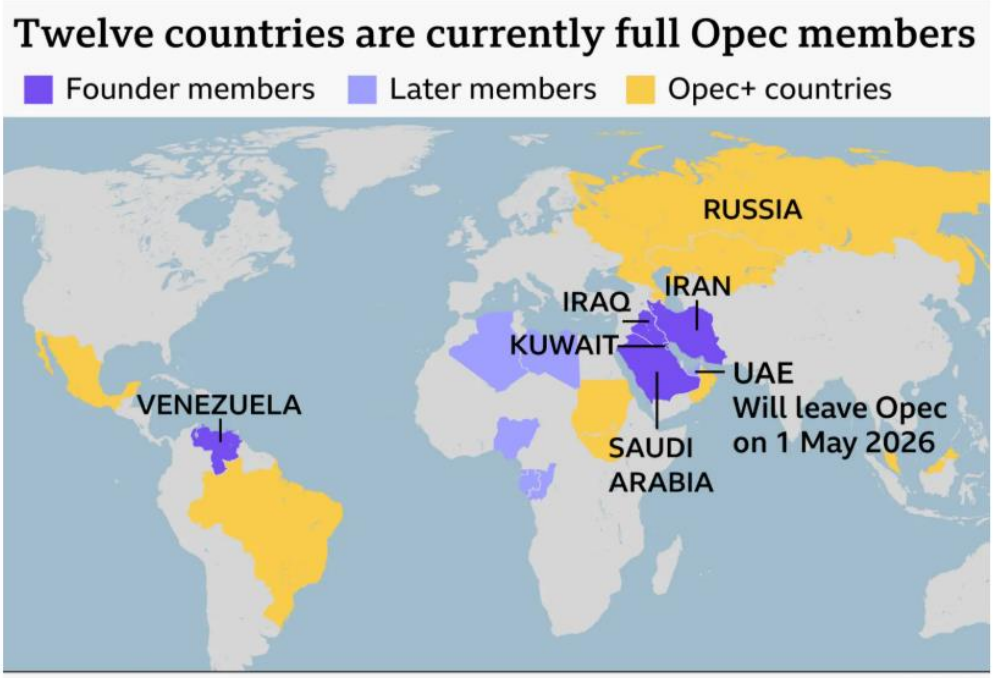
The Energy–Fertiliser–Food Nexus

- The current crisis highlights a deeper structural vulnerability in the global economy: the tight interlinkage between energy markets and food production.
- Natural gas is a key input in nitrogen fertiliser production, while sulphur, derived from petroleum refining, is essential for phosphate fertilisers. Disruptions in energy markets therefore directly constrain fertiliser production capacity.
- At the same time, rising energy prices create competition for inputs across sectors, with higher-value industries outbidding fertiliser producers for limited resources. This further tightens supply and reinforces upward pressure on prices.
- Given the globalised nature of fertiliser markets, these dynamics are rapidly transmitted across countries, regardless of their direct exposure to the Gulf region. The result is a system-wide cost escalation, increasing the likelihood that the current energy shock evolves into a broader food crisis.
- The global food system is fundamentally dependent on energy inputs. A disruption in energy supply is not isolated—it creates a cascade effect:

Energy Shock → Fertiliser Shortage → Lower Yields → Food Inflation

- Compounding these risks is a significant structural shift within global oil market dynamics, following the United Arab Emirates' decision to exit OPEC effective 1 May 2026. As one of Saudi Arabia's most important partners in managing production quotas, the UAE's departure weakens the cohesion and effectiveness of the cartel in stabilizing oil prices.
- In a scenario where the Straits of Hormuz reopens, the absence of the coordinated supply discipline raises the likelihood that the UAE could increase production aggressively, potentially leading to a greater volatility in global oil markets.

Chart 5: OPEC members



Sources: OPEC, BBC

- This development introduce a more complex supply dynamic. On one hand, prolonged disruptions in the Strait could constrain supply and push prices higher. On the other hand, a breakdown in OPEC coordination could lead to unanticipated supply increase once logistical constraints ease.
- The existence of these opposing forces suggests that oil markets may become structurally more volatile, complicating the transmission of energy prices into fertilizer costs and, by extension, global food production.

Protectionism and Supply Chain Fragmentation

- As global supply conditions tighten, policy responses and market behaviour can significantly amplify the initial shock.
- Countries facing supply uncertainty may impose export restrictions or increase stockpiling to protect domestic markets. While such measures provide short-term stability domestically, they reduce global supply and increase price volatility.
- Logistics constraints further exacerbate these risks. Disruptions to key shipping routes, combined with congestion in alternative corridors, are increasing transit times and freight costs. Higher-value cargoes are increasingly prioritised, leaving agricultural shipments more exposed to delays.
- The combined effect is a gradual fragmentation of global trade flows, with supply becoming less predictable and more sensitive to geopolitical developments. This environment heightens the risk of price spikes and supply shortages, particularly for import-dependent economies.

- In other words, global supply shocks are often intensified by behavioural responses:
  - ✓ Export restrictions
  - ✓ Panic stockpiling
  - ✓ Trade fragmentation
- These actions can transform supply disruption into a full-scale food security crisis.
- Importantly, historical precedent suggest that disruptions to key shipping routes tend to persist well beyond the immediate conflict period. Even where security conditions improve, normalization of trade flows is often slow and uneven.
- The experience in the Red Sea, where shipping activity has yet to fully recover months after tension eased, highlights the risk of prolonged dislocation.
- Current assessment indicates that disruptions in the Strait of Hormuz could persist for an extended period, potentially lasting 12 to 18 months. Such a prolonged adjustment period would have significant implications for global supply chains, including sustained increase in freight costs, persistent delivery delays, and continued uncertainty in trade flows.
- In this context, the combination of structural shipping disruptions and evolving geopolitical dynamics increases the likelihood of supply chain fragmentation. This not only raises costs but also reduces the reliability of global trade networks, amplifying risks to food availability and price stability, particularly for economies with high import dependence.

Table 1: Countries with food export restrictions during the Russia-Ukraine war

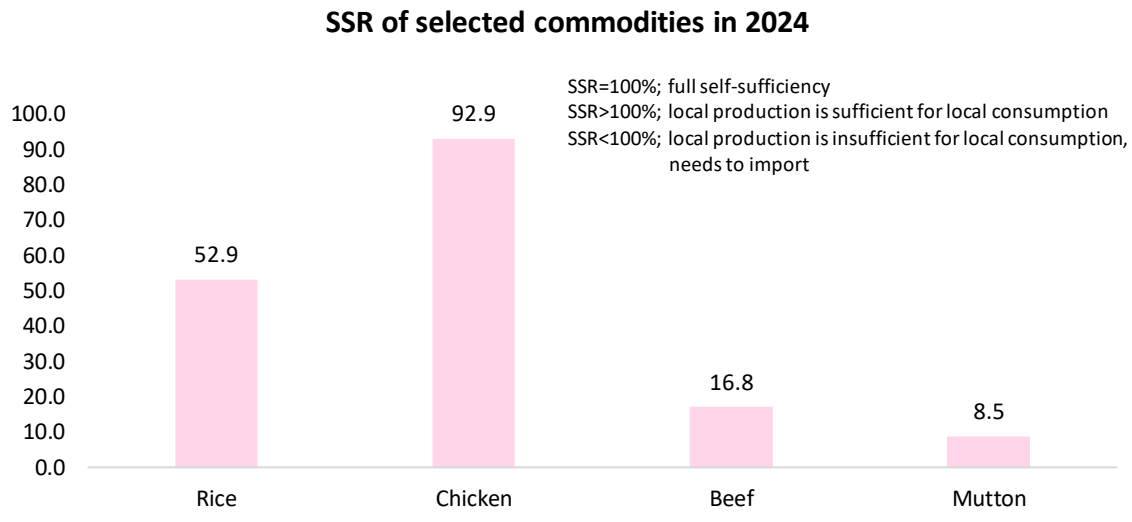
Country	Products Banned/Restricted	Context/Date
Argentina	Soybean oil, soybean meal	Export ban amid food price inflation
Algeria	Sugar, pasta, vegetable oil, wheat derivatives	Export ban to protect domestic supply
Egypt	Vegetable oil, maize; later wheat, flour, beans	Banned exports early 2022 as prices surged
India	Wheat	Major exporter restricting wheat exports in 2022
Indonesia	Palm oil, palm kernel oil	Banned to keep domestic prices stable
Iran	Potatoes, eggplant, onion, tomatoes	Export bans on key staples
Kazakhstan	Wheat and wheat flour	Export ban on key grains
Kosovo	Wheat, maize, flour, vegetable oil, salt, sugar	Broad food export restrictions
Turkey	Meat, cooking oils, lentils & pulses	Export restrictions on multiple foods
Ukraine	Wheat, oats, millet, sugar	Ukraine itself limited exports to preserve domestic supply early in war
Russia	Wheat, rye, barley, maize; sugar; sunflower seeds	Export bans on major cereal and oilseed products
Serbia	Wheat, corn, flour, oil	Restrictions on key staples
Tunisia	Fruits & vegetables	Export ban to protect local markets
Kuwait	Chicken products, grains, vegetable oils	Export restrictions announced in 2022

Sources: International Food Policy Research Institute, CNBC

Malaysia's Exposure: Structural Vulnerabilities and Agricultural Trade-offs

- Malaysia's exposure to these developments is primarily indirect but structurally significant.
- As a net food-importing country, Malaysia relies heavily on external sources for both food and agricultural inputs. The widening food trade deficit and low self-sufficiency ratios for key staples such as rice, beef, and mutton underscore this dependency.
- Fertiliser supply represents a critical vulnerability. A significant portion of Malaysia's fertiliser imports originates from the Gulf, while alternative suppliers have introduced export restrictions. At the same time, domestic production faces rising input costs, limiting its ability to offset supply disruptions.
- The impact on the agricultural sector is uneven. Large plantation players are relatively better positioned to absorb cost increases, while smallholder farmers, particularly in food crop segments, face greater constraints.
- This creates a resource allocation challenge, where fertiliser usage may be prioritised toward higher-value export crops such as palm oil, potentially at the expense of domestic food production. For rice and other staples, reduced fertiliser application could lower yields and increase reliance on imports.
- In addition, rising input costs are feeding into broader food production systems, including livestock and poultry, reinforcing inflationary pressures across multiple categories.

Chart 6: Malaysia Food Trade Deficit / Self-sufficiency ratio (SSR) Levels



Sources: DOSM, CEIC Data, Bank Islam

- Malaysia faces a dual risk: (i) higher import costs due to global price increases and (ii) lower domestic production due to fertiliser constraints. This combination raises food inflation and food security risks.

Inflation Dynamics: From Fuel-Led to Food-Led Pressures

- Malaysia's inflation dynamics are likely to shift under the current environment.
- While fuel prices have historically been a key driver of inflation, subsidy mechanisms and changes in CPI composition have reduced their direct impact. Instead, inflationary pressures are increasingly likely to originate from the food component.
- Food inflation is structurally more persistent, as it reflects cumulative cost pressures across the supply chain. Rising fertiliser, feed, and logistics costs are already building upstream, suggesting a risk of delayed but sustained pass-through to consumer prices.
- This implies that inflation may remain manageable in the near term due to policy measures but could become more entrenched if upstream pressures persist.
- Past inflation shocks like Russia-Ukraine conflict were largely fuel-led—sharp, visible, and often reversible once energy prices eased or policy tightened. However, the U.S.-Iran conflict is different: it is food-led, and therefore far more insidious.
- Food inflation tends to be more persistent, rooted in structural forces such as climate volatility, supply disruptions, and agricultural constraints that do not unwind quickly. It is also harder to control, as interest rate tools have limited influence over weather patterns or crop yields. Most critically, food inflation is deeply social in its impact, hitting lower-income households disproportionately by eroding real purchasing power where it hurts most—at the dinner table. Unlike fuel price spikes, which can fade with market cycles, sustained food inflation risks entrenching inequality, fueling discontent, and reshaping consumption behavior for years to come.

Policy Response and Resilience

- Policy intervention will be critical in managing both immediate and medium-term risks.
- In the short term, subsidies, price controls, and targeted assistance remain essential in cushioning households and stabilising inflation. However, the current crisis highlights the need for a more forward-looking and structural policy approach.
- Strengthening upstream monitoring is crucial, as cost pressures originate from fertilisers, energy, and logistics rather than retail markets. Early intervention at these stages can help mitigate downstream impacts.
- Fertiliser security should be prioritised through diversification of supply sources, enhancement of domestic production, and improved distribution mechanisms. While alternative fertilisers are being explored, their scalability remains limited in the near term.
- Efforts to enhance supply chain resilience, through buffer stocks, improved logistics, and better coordination, will also be important in mitigating disruptions. At the same time, there is a need to gradually transition toward more targeted subsidy mechanisms to ensure fiscal sustainability, while continuing to support vulnerable groups.

- Ultimately, the crisis presents an opportunity to strengthen domestic agricultural capacity, improve efficiency, and build a more resilient food system.
- Strategically, policy must operate across three horizons. **In the short term, the priority is to cushion the shock** through subsidies, price controls, and targeted assistance to stabilise food prices and protect vulnerable households from immediate cost pressures. **In the medium term, the focus should shift to strengthening resilience** by tightening upstream monitoring of fertilisers, energy, and logistics, enhancing supply chain coordination, building buffer stocks, and prioritising fertiliser security through diversified sourcing and improved domestic capacity. **Over the long term, the objective is to reduce structural dependency** by gradually transitioning toward more targeted and fiscally sustainable subsidies, while investing in domestic agricultural productivity, efficiency, and system-wide resilience. Together, this phased approach not only manages the current food inflation shock but also lays the foundation for a more robust and self-sustaining food system.

Conclusion: From Temporary Shock to Structural Risk

- The U.S.–Iran conflict represents more than a geopolitical disruption, it is a systemic shock with the potential to evolve into a global food crisis.
- The key risk lies in the second-round effects, particularly through fertiliser markets and agricultural output. While the immediate impact is seen in rising costs, the more significant threat is the potential for reduced crop yields and tighter supply in future cycles.
- For Malaysia, structural dependencies on imported food and inputs increase exposure to these risks. While policy measures can cushion short-term impacts, the current environment underscores the importance of strengthening resilience and addressing underlying vulnerabilities.
- Businesses directly tied to food supply chains, such as agriculture, food processing, retail, and logistics which rely heavily on imported inputs, may face higher operating costs and margin pressure. These dynamics could weigh on their financial performance.
- The trajectory of the conflict will ultimately determine the scale of the impact. However, the evolving dynamics suggest that the risks are no longer confined to energy markets but are increasingly embedded within the global food system, raising the stakes for both policymakers and market participants.