

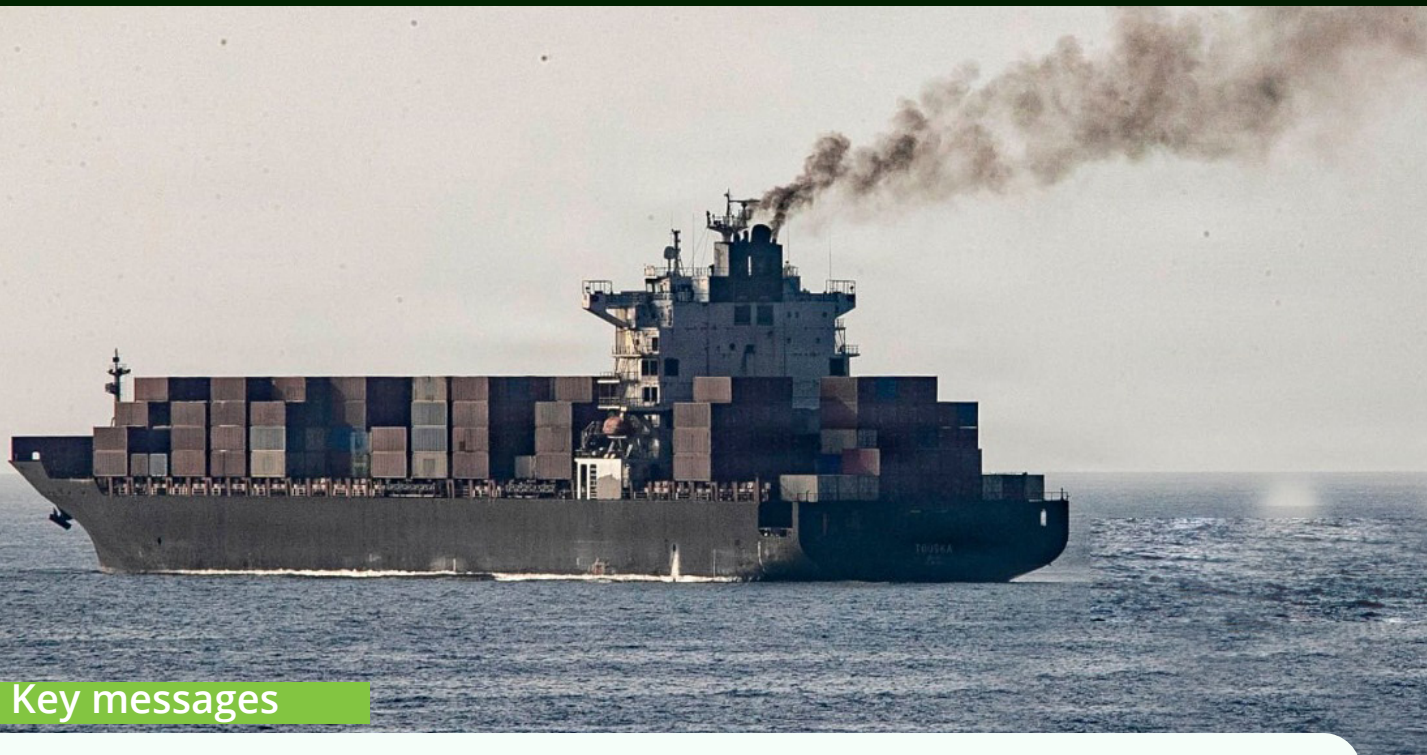


MAKERERE UNIVERSITY

Policy Brief

Implications of the Middle East Crisis on Uganda's Food Systems

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Key messages

- **External shocks are affecting Uganda's food system.** Despite the conflict being geographically distant, its effects are transmitted through exchange rates, fuel prices, and input markets, with immediate implications for inflation and food access.
- **The exchange rate is the primary channel of impact.** Depreciation of the Uganda Shilling increases the cost of imports especially fuel and fertilisers driving broad-based inflation across the economy.
- **Rising fertiliser prices pose a serious risk to future production.** Reduced use of fertiliser due to high costs will likely lower yields and food supply in upcoming seasons, particularly for key staples.
- **Most Ugandan households are net food buyers and are therefore vulnerable.** Higher food prices reduce purchasing power for the majority, with urban households, rural net buyers, and vulnerable regions most affected.
- **Early, targeted policy action is critical.** Coordinated interventions focused on stabilising the exchange rate, managing fuel and input costs, and protecting vulnerable households can prevent the current shock from escalating into a broader food security crisis.

The Problem

The current crisis is rooted in a disruption of global energy and logistics systems following heightened geopolitical tensions in the Middle East. In particular, the Strait of Hormuz one of the world's most critical maritime chokepoints, through which a substantial share of global oil supplies transit has experienced partial closure and sustained military tension. This has significantly increased uncertainty in global oil markets, driven up freight and insurance costs, and disrupted

established shipping routes for energy and agricultural inputs.

While Uganda is geographically distant from the conflict, the effects are transmitted rapidly through global markets. The country is not insulated from these shocks; rather, it is structurally integrated into global trade systems in ways that make it highly sensitive to such disruptions. For Uganda, the implications reflect structural dependencies:

- **High dependence on imported petroleum:** Uganda relies entirely on imported refined petroleum products, underscoring its exposure to global energy market dynamics. In 2025, petroleum and fuels accounted for 19.7% of total imports by value, largely sourced from Gulf countries such as the United Arab Emirates, Kuwait, and Oman (Worldbank, 2021). This reliance means that any disruption in supply routes or price movements in these markets is quickly transmitted into higher import costs and domestic fuel prices, with wide-ranging effects across the economy. These pressures extend beyond fuel itself. Machinery, equipment, and vehicles, which constitute the largest import category at 21.3%, are also affected through higher logistics and transport costs, further amplifying the impact on production, investment, and overall economic activity
- **Reliance on imported fertilisers:** Fertilisers are highly dependent on global energy markets and international supply chains, particularly those linked to the Gulf region. Their production is energy-intensive, especially nitrogen fertilisers, which require large amounts of natural gas and supply is influenced by geopolitical developments in key exporting regions. (several major phosphate-exporting regions are in or adjacent to conflict zones). As a result, rising energy costs and logistical disruptions quickly translate into higher fertiliser prices. For Ugandan farmers, this means increased production costs and reduced incentives to use inputs. Fertiliser use in Uganda remains low at just 3.33 kg/ha compared to 22 kg/ha in Sub-Saharan Africa (IFDC, 2024; FAO, 2025) and this is likely to be lower with the price increases.
- **Transport-dependent food systems:** Uganda's food system is heavily reliant on road transport, with limited alternative logistics infrastructure such as rail. This means that increases in fuel prices quickly feed into higher costs of moving produce from surplus rural areas to deficit urban markets, amplifying food price inflation.

- **Exposure through remittances and external incomes:** A significant number of Ugandans work in Gulf economies, sending remittances that support household consumption and investment. Disruptions in these economies whether through labour market instability or financial restrictions can reduce these inflows, weakening household purchasing power.
- **Trade linkages with Gulf markets:** The Middle East is a major export destination for Uganda, accounting for over 40% of total export earnings. While a significant share of this is driven by gold trade, the region also remains an important market for agricultural exports including coffee, fish, and horticultural products (Rauschendorfer et al.; 2021). Disruptions in shipping routes, higher transaction costs, or reduced demand in these markets can therefore affect Uganda's export earnings and foreign exchange inflows, further compounding exchange rate pressures.

This crisis shows the urgency of strengthening resilience within Uganda's food systems not only by addressing immediate price and supply pressures, but also by reducing long-term dependence on vulnerable global supply chains.



Figure 1: Motorists waiting in line for Fuel in Northern Uganda showing supply disruptions in some parts of Uganda. Photo Credit: Arua One FM

What Drives Inflation in Uganda? Evidence from Empirical Analysis

To understand how global shocks affect Uganda's economy, a Structural Vector Autoregression (SVAR) model was used to trace how changes in global conditions such as movements in the US dollar and geopolitical tensions are transmitted

into the exchange rate and, ultimately, inflation. In addition, Forecast Error Variance Decomposition (FEVD) was applied to identify the relative importance of different drivers of inflation over time.

2.1 How Global Shocks Are Transmitted

The results show that global financial conditions particularly movements in the US dollar are the main starting point of external shocks affecting Uganda.

When the US dollar strengthens, the Uganda Shilling depreciates, increasing the cost of imports such as fuel and fertilisers. This effect is both strong and immediate. The analysis shows that a 1% increase in the US dollar leads to about a 0.49% depreciation of the Uganda Shilling within the same month, making this the strongest transmission link.

Exchange rate movements then translate directly into inflation. A 1% depreciation of the Uganda Shilling increases inflation by about 0.31% in the short term, reflecting higher import costs feeding into domestic prices.

There is also a smaller, direct channel through which global conditions affect prices, beyond the exchange rate. However, the results show that geopolitical tensions such as those in the Middle East do not affect Uganda directly. Instead, their effects are indirect, operating through global financial markets and commodity prices.

Table 1: SVAR Transmission Pathways from Global Shocks to Inflation

Transmission Pathway	What Happens	Effect
Stronger US Dollar (Global financial conditions)	Makes Uganda Shilling weaker (depreciates)	1% increase in USD → 0.49% UGX depreciation
Weaker Uganda Shilling (Exchange rate depreciation)	Increases cost of imports and raises prices	1% UGX depreciation → 0.31% increase in inflation
Global financial pressures	Directly increases domestic prices	Moderate
Global oil market disruptions	Slight effect on oil prices	Very small
Geopolitical tensions (Middle East conflict)	No direct effect on exchange rate	Negligible

2.2 What Drives Inflation?

While the SVAR identifies how shocks are transmitted, FEVD shows which factors matter most for inflation over time.

The results indicate that inflation in Uganda is highly persistent, with domestic inflation dynamics explaining the majority of price movements. Between 80% and 90% of inflation variation is driven by internal factors, reflecting the tendency of price increases to carry forward over time through expectations, cost adjustments, and market behaviour.

Among external factors, the exchange rate is by far the most important driver. Its contribution increases over time, rising from 9% in the short term to about 18% over a 24-month horizon. This confirms that external shocks become more influential over time, primarily through the exchange rate.

Other factors including the US dollar, oil prices, geopolitical risk, and the policy rate play only a minor role in explaining inflation fluctuations.

Table 2: FEVD results of what drives inflation in Uganda

Driver	Month 1	Month 6	Month 12	Month 24	Interpretation
Domestic Inflation Persistence	89%	90%	87%	80%	Inflation persistence remains high
Exchange Rate (UGX/USD)	9%	9%	11%	18%	Largest external driver of inflation
US Dollar index (DXY)	1%	1%	1%	1%	Small but consistent global effect
Oil Prices (Brent)	<1%	<1%	<1%	<1%	Limited direct effect
Geopolitical Risk	<1%	<1%	<1%	<1%	Negligible direct impact
Policy Rate (CBR)	<1%	<1%	<1%	<1%	Limited short-term influence

How the shock affects Uganda's Food systems

The effects of the Middle East crisis are transmitted to Uganda's food systems through a set of interconnected channels. These channels interact to amplify the overall impact on prices, production, and household welfare.

• Exchange Rate dynamics

The exchange rate is the primary pathway through which global shocks are transmitted into Uganda's economy. In periods of global uncertainty, investors shift toward safe-haven assets such as the US dollar, leading to its appreciation. This results in depreciation of the Uganda Shilling, increasing the domestic cost of imports particularly fuel, fertilisers, and other essential inputs.

The key implication is that exchange rate pressures will drive inflation. Given Uganda's reliance on imported goods, rising import costs are quickly transmitted across sectors, contributing to higher production costs and consumer prices. These effects are not temporary; exchange rate pass-through tends to persist, meaning that even short-term external shocks can generate sustained inflationary pressures. Therefore, maintaining exchange rate stability is critical not only for macroeconomic management, but also for safeguarding food system stability and household welfare.

While exchange rate movements determine the cost of imported fuel, it is through fuel prices that the shock is most visibly transmitted into Uganda's food system. Fuel acts as a critical intermediary input, linking global shocks to domestic food markets through transport, distribution, and production costs.

• Fuel prices and transport costs transmission to food prices

As illustrated in Figure 2, movements in the exchange rate are closely mirrored by increases in gasoline and diesel prices over the January-March 2026 period. The sharp rise in the exchange rate in March coincides with a noticeable increase in fuel prices, underscoring the direct and rapid pass-through from currency depreciation to domestic energy costs. Increases in fuel prices closely follow periods of exchange rate depreciation, but their impact is more direct and immediate at the level of the food system. Once fuel prices rise, the effect is quickly felt along agricultural value chains. Transport costs increase at every stage from moving inputs to farms, to aggregating produce, and finally to distributing food to urban markets. In a system that relies almost entirely on road-based logistics, this creates a rapid and widespread increase in the cost of moving food.

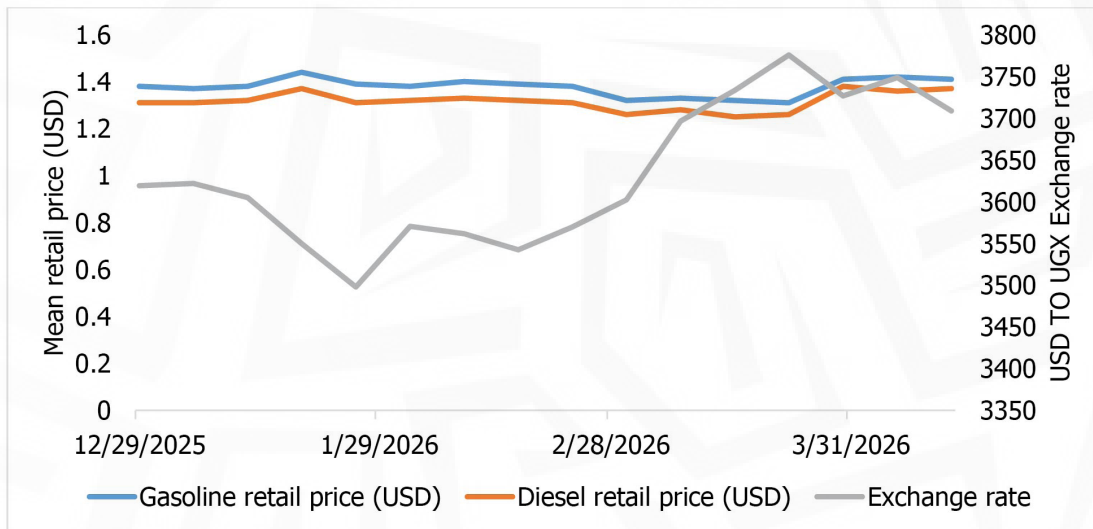


Figure 2: Trend of retail fuel prices and exchange rates

- Fertiliser prices and agricultural production pose a risk to future supply**

Rising global energy and commodity prices have significantly increased the cost of imported agricultural inputs in Uganda, particularly fertilizers. Given that Uganda relies heavily on imported raw materials such as Di-Ammonium Phosphate (DAP), Urea, and Muriate of Potash (MOP), global price shocks and exchange rate depreciation have directly translated into higher domestic fertilizer prices. For instance, international prices for DAP rose from approximately USD 650-700 per metric tonne in late 2025 to around USD 700-750 per metric tonne in January-February 2026, while Urea prices increased to about USD 420-450 per metric tonne over the same period (Worldbank 2026). Combined with a weakening Uganda shilling, this has raised the landed cost of fertilizers, making them less affordable for farmers and potentially reducing application rates, with negative implications for agricultural productivity.

The effects are particularly pronounced for fertilizer blending companies, which depend on imported intermediate inputs to produce customized fertilizer formulations for different crops and agro-ecological zones. The rising cost of imported raw materials, coupled with increased freight and insurance charges, has significantly raised production costs for these firms. As a result, blending companies face squeezed profit margins or are forced to pass on higher costs to farmers, further exacerbating affordability challenges. In some cases, firms may reduce production volumes or delay procurement due to price volatility and foreign exchange constraints. This undermines the growth of Uganda's nascent fertilizer blending industry and weakens efforts to promote site-specific fertilizer use.

- **Logistics and supply chain disruptions increasing costs and uncertainty**

Increased shipping costs, higher insurance premiums, and delays in maritime transport are affecting the flow of goods into Uganda. These disruptions raise the landed cost of essential agricultural inputs such as agrochemicals, seeds, and machinery, while also affecting the availability of imported food products. The impact of these disruptions goes beyond higher costs to include increased uncertainty. Importers and agro-dealers may face delays in receiving inputs, which can disrupt planting schedules and reduce the timely availability of critical supplies. In agriculture, where production cycles are closely tied to seasonal calendars, such delays can have disproportionate effects on output. Consequently, logistics disruptions introduce both cost pressures and timing risks, compounding the challenges faced by farmers and market actors.

- **Remittance and implications for food access**

The crisis also affects household welfare through its impact on income, particularly via remittance flows. Many Ugandan households rely on financial support from relatives working in Gulf countries. Uganda's Gulf diaspora remittances averaged USD 126 million per month in 2025 (up from USD 119 million in 2024). Therefore, any disruption to economic activity, labour markets, or financial systems in these countries can reduce remittance inflows. A decline in remittances directly reduces household purchasing power, limiting the ability to purchase food and other essential goods. This is particularly important in a context where a large share of households are net food buyers and depend on markets for their consumption needs. In addition, reduced income may constrain households' ability to invest in agricultural production, such as purchasing inputs or hiring labour.

- **Market Behaviour amplify the shocks**

Beyond direct cost channels, the shock is further transmitted and often amplified through the behaviour of market actors. Traders and farmers do not passively absorb shocks; they respond to expectations about future prices and market conditions. In the current environment, expectations of rising fuel, transport, and input costs are already shaping behaviour in ways that intensify the impact of the shock. Traders withhold supply of staple commodities such as maize and beans in anticipation of higher future prices, while others adjust prices pre-emptively based on expected cost increases rather than current market conditions. At the same

time, farmers may delay sales or adjust production decisions in response to uncertainty. These responses, while individually rational, reduce market supply in the short term and place upward pressure on prices. The implication is that market behaviour can amplify initial shocks, creating artificial scarcity and increased price volatility. This not only raises food prices for consumers but also undermines market stability and complicates policy responses.

• Fragile Price Stability poses a risk to Food Access

While recent trends show some decline in food prices, this should be interpreted with caution. Current price stability is largely driven by favourable harvests rather than improvements in the underlying resilience of Uganda's food system. As such, it represents a temporary buffer rather than a structural shift. Therefore, beneath this stability, key vulnerabilities remain. Food prices in several regions are still above historical averages, and a significant share of the population continues to face food insecurity. With the lean season approaching, household reliance on markets will increase at a time when supply pressures may intensify. In this context, the system remains highly sensitive to additional shocks. Any further increase in fuel prices or exchange rate depreciation could quickly reverse recent gains, leading to renewed price spikes and reduced food access.

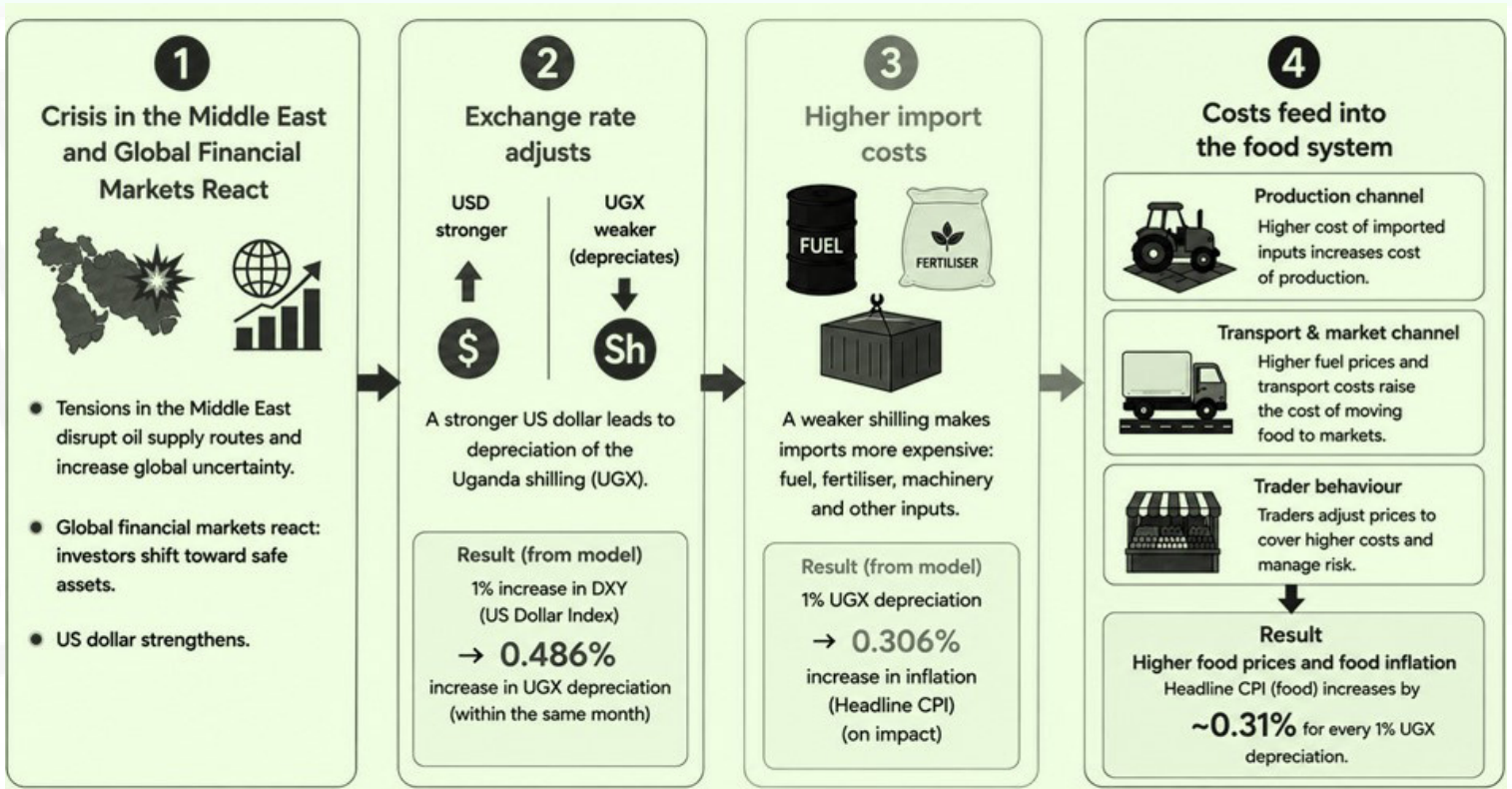


Figure 3: Illustration of Transmission Channels of the Middle East Conflict to Uganda's Economy.

• Who is Most Affected?

The impacts of the current crisis are not evenly distributed across the population; rather, they fall disproportionately on groups that are already economically vulnerable or structurally exposed to market fluctuations as highlighted below and summarised in Table 3

• **Net food buyers (urban and rural):** Net food buyers are the most vulnerable group because they depend on markets for their food consumption and are therefore directly exposed to increases in food prices. As food prices rise due to higher fuel and input costs, these households experience immediate declines in real income and purchasing power. This is particularly severe for low-income households, who spend a large share of their income on food and have limited capacity to adjust consumption.

• **Smallholder farmers (staple producers):** Smallholder farmers face a dual risk as both producers and consumers. On the production side, rising fertilizer and fuel prices increase the cost of cultivation, leading to reduced input use and lower yields. On the consumption side, many smallholders are net food buyers, meaning they are also exposed to higher food prices. Their limited access to credit and inputs further constrains their ability to respond to these shocks.

• **Fertilizer blending companies:** Fertilizer blending companies face significant risks due to their reliance on imported raw materials. Rising global fertilizer prices, exchange rate depreciation, and increased freight costs raise the cost of production. These firms are therefore highly exposed to external shocks, which can affect their operations, pricing, and overall viability.

• **Government / macroeconomy:** At the macro level, the economy is exposed to rising import costs for fuel and fertilizers, which increase pressure on foreign exchange reserves and contribute to exchange rate depreciation. These dynamics feed into broader inflationary pressures, affecting economic stability and increasing the cost of living across the economy.

• **Horticultural and commercial farmers:** Horticultural and other commercial farmers are particularly vulnerable due to their high dependence on fertilizers and other purchased inputs. Increases in input and transport costs significantly raise production costs, reducing profitability and competitiveness. For export-oriented producers, additional exposure to logistics disruptions further increases their vulnerability.

• **Transporters and logistics providers:** Transporters are directly affected by increases in fuel prices, which raise the cost of moving agricultural inputs and outputs. Given their central role in the food system, higher transport costs are passed along the value chain, amplifying price increases and affecting the overall efficiency of food distribution.

• **Agro-input dealers and importers:** Agro-input dealers and importers are exposed to rising procurement costs driven by global price increases and exchange rate movements. At the same time, higher prices can reduce demand from farmers, creating uncertainty in the market. This combination of rising costs and fluctuating demand increases business risk.

Table 3: Exposure of Food System Actors to External Shocks

Category of Actors	Fertilizer Price Shock	Fuel Cost Shock	Exchange Rate Depreciation	Trade & Logistics Disruptions	Food Price Inflation	Overall Risk Level
Net food buyers (urban & rural)	Low (indirect)	Medium	High	Medium	Very High	Very High
Smallholder farmers (staples)	High	Medium	Medium	Low	High (as consumers)	High
Horticultural & commercial farmers	Very High	High	High	Medium	Medium	Very High
Fertilizer blending companies	Very High	Medium	Very High	High	Low	Very High
Agro-input dealers & importers	High	Medium	Very High	High	Medium	High
Transporters & logistics providers	Low	Very High	High	Medium	Medium	High
Government / macroeconomy	Medium	High	Very High	High	High	Systemic Risk

• Recommended policy priorities

The Government of Uganda has already taken steps to manage short-term risks, including maintaining strategic fuel reserves and engaging key trade partners to sustain supply flows. These efforts have helped cushion immediate disruptions and should be sustained and strengthened as the situation evolves. Other policy responses proposed include the following;

Immediate (0-3 Months): Stabilisation and Anticipating Delayed Impacts

- In the immediate term, the focus should be on stabilising markets while anticipating future pressures. The Bank of Uganda should continue to closely monitor exchange rate movements and inflation trends, given the strong pass-through to domestic prices. Early and calibrated responses will help prevent inflationary pressures from becoming entrenched.
- Fiscal policy should build on existing efforts by maintaining targeted support rather than broad subsidies. Government actions such as sustaining fuel reserves are particularly important and should be continued to mitigate

supply disruptions and smooth price volatility.

- At the same time, improving market transparency is critical. MAAIF should strengthen real-time fertiliser price monitoring and farmer advisory systems, ensuring that farmers currently making or finalising planting decisions are well-informed and able to respond appropriately.
- The Ministry of Trade should also intensify market monitoring to prevent hoarding and speculative behaviour, which could amplify future price increases.
- In parallel, government should prepare to scale up social protection programmes, particularly in vulnerable regions, to respond quickly once price pressures begin to affect

households more visibly.

Short-Term (3-6 Months): Managing Emerging Production and Price Effects

- As the season progresses, the delayed effects of current shocks are likely to become more evident through higher food prices and potential production shortfalls. Policy should therefore focus on sustaining production outcomes and managing price transmission.
- Targeted fertiliser support may be necessary to prevent reduced application rates from translating into lower yields. Continued communication to farmers on input use and market expectations will also be critical to avoid suboptimal production decisions.
- At the external level, sustained engagement with Gulf partners should continue to secure

fuel supply chains and remittance flows, which remain important for both macroeconomic stability and household welfare.

Medium-Term (6-18 Months): Strengthening System Resilience

- Looking beyond the immediate horizon, Uganda should build on existing efforts to reduce structural vulnerabilities. This includes strengthening input market systems through bulk procurement and improved distribution, expanding irrigation to reduce reliance on rainfall and input volatility, and enhancing regional trade integration to buffer against global shocks.
- The crisis also highlights the importance of reinforcing energy security strategies, including maintaining and expanding fuel reserves and diversifying supply sources over time.

While the immediate effects may appear low due to current seasonal conditions, the real impact is likely to emerge in the coming months. Proactive and sustained policy action building on measures already in place will be critical to mitigating risks and safeguarding Uganda's food system.

Conclusion

Uganda is at a critical juncture. While the current situation has not yet escalated into a full crisis, the risks are clearly building driven by exchange rate pressures, rising fuel and fertiliser costs, and emerging market distortions. With the lean season approaching and key planting decisions underway, delays in response could quickly amplify these pressures. What is required is proactive, targeted, and coordinated policy action, and this can be through addressing the main transmission channels exchange rates, fuel costs, and input markets.

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