

Policy responses for fostering South-South and Triangular Cooperation in response to the food crisis in the area of trade

By Peter Lunenborg*

Abstract

The Russia-Ukraine conflict since 24 February 2022 and the various sanctions imposed on Russia are having tremendous global repercussions, including on developing countries. This world is already experiencing multiple crises such as COVID-19 and measures in response to the virus including lockdowns, money printing and increases in government debts, conflicts and tensions in other parts of the world as well as climate change and extreme weather events such as extreme flooding or droughts. The conflict is compounding and aggravating these shocks.

In the short to medium term, prices in particular for energy (oil, gas), derived products (fertilizers) and food (in particular cereals) will remain elevated. Availability might also suffer. As a result, food insecurity is and will remain a serious concern in the near and medium term. Policy actions are required to mitigate any potential famine(s) which may arise and to build resilience for the future.

This paper explores concrete options for developing countries to address food insecurity in the short, medium and long term, including purchase policies, better implementation of WTO rules and increase in domestic investment in wheat and fertilizers production.

Le conflit qui oppose la Russie et l'Ukraine depuis le 24 février 2022 et les diverses sanctions infligées à la Russie ont des répercussions considérables sur le plan mondial, y compris sur les pays en développement. Ce conflit intervient dans une période marquée par de nombreuses crises liées à la pandémie de COVID-19 et aux mesures prises pour y faire face, particulier les confinements, l'émission de monnaie et l'augmentation de la dette publique, aux conflits et tensions qui font rage dans certaines parties du monde, et au changement climatique et aux événements météorologiques extrêmes tels que les inondations ou sécheresses, qu'il contribue à aggraver et à accentuer.

À court et moyen terme, les prix, en particulier ceux de l'énergie (pétrole, gaz), des produits dérivés (engrais) et des denrées alimentaires (notamment les céréales) resteront élevés, entraînant des problèmes de disponibilité et, par voie de conséquence, de sécurité alimentaire, qui demeure une préoccupation majeure à court et moyen terme. Des actions politiques sont nécessaires pour limiter les risques de famine et renforcer les capacités de résilience pour l'avenir.

Ce document examine les options concrètes qui s'offrent aux pays en développement pour faire face à l'insécurité alimentaire à court, moyen et long terme, notamment des politiques plus efficace en matière d'achat, une meilleure application des règles de l'OMC et l'augmentation des investissements nationaux dans la production de blé et d'engrais.

El conflicto entre Rusia y Ucrania, desde el 24 de febrero de 2022, y las diversas sanciones impuestas a Rusia están teniendo enormes repercusiones mundiales, incluso en los países en desarrollo. Este mundo ya está experimentando múltiples crisis, como la de COVID-19 y medidas en respuesta al virus que incluyen bloqueos, impresión de dinero y aumentos en las deudas gubernamentales, conflictos y tensiones en otras partes del mundo, así como el cambio climático y eventos climáticos extremos, como inundaciones o sequías extremas. El conflicto está agravándose y agravando estas conmociones.

A corto y medio plazo, los precios de la energía (petróleo, gas), los productos derivados (fertilizantes) y los alimentos (en particular los cereales) seguirán siendo elevados. La disponibilidad también podría verse afectada. Como resultado, la inseguridad alimentaria es y seguirá siendo una grave preocupación a corto y medio plazo. Se requieren acciones de política para mitigar cualquier posible hambruna que pueda surgir y para crear resiliencia para el futuro.

Este documento explora opciones concretas para que los países en desarrollo aborden la inseguridad alimentaria a corto, mediano y largo plazo, incluidas las políticas de compra, una mejor implementación de las normas de la OMC y el aumento de la inversión nacional en la producción de trigo y fertilizantes.

* Peter Lunenborg is Senior Programme Officer of the Trade for Development Programme (TDP) of the South Centre.

I. Main impact of Ukraine crisis on commodities

The crisis in Ukraine has had several impacts in commodity markets, especially cereals (in particular wheat), oil seeds, natural gas and fertilizers.

Wheat

The Russian Federation and Ukraine are prominent players in global trade of food and agricultural products. In 2021, wheat exports by the Russian Federation and Ukraine accounted for about 30 percent of the global market. Globally, almost 70 per cent of wheat is used as food.¹ Wheat export prices were already increasing before the Ukraine crisis and have increased even more thereafter. By June/July 2022, prices came down to pre-invasion levels and have since then seen a lateral movement (see Figure 1 below).

Future developments in the price depends on a range of factors, including the weather in major producing regions, countries' reactions to the current situation and production supply responses in Russia and Ukraine following the conflict and sanctions as well as the implementation of the Black Sea Grain Initiative, which facilitates commercial food exports from three key Ukrainian ports in the Black Sea.³ As of beginning 2023, July 2025 is the earliest month in which the future wheat price is below the 'front month' (the nearest expiration date in futures trading). This indicates that the market considers it unlikely that the wheat price will go down in the near to medium future.⁴

Russia's current production seems largely unimped-

ed by the Ukraine conflict. With respect to exports, under the 1936 Montreux Convention Regarding the Regime of the Straits⁵, non-Black Sea powers cannot enter the Black Sea through the Bosphorus in Turkey, which could reduce the chance that vessels carrying Russian grain traversing the Black Sea could be affected. Russia could safeguard grain exports to some extent.

For the next harvesting season, the picture might be different. Russian farmers might have challenges in sourcing certain inputs such as pesticides, seeds and other agricultural supplies and they might delay capital investments. The conflict might also escalate which might hinder movement of ships, for instance through the Mediterranean Sea towards Africa. There are also other factors to account for such as the weather. Many regions in the world have faced drought in the year 2022 including in Africa, Latin America, United States and Europe, putting pressure on their wheat production. Yet other countries including Australia and Russia⁶ have seen more bountiful harvests.

Turning to Ukraine, wheat production and exports have declined. The harvest amounted to 32.2 million tonnes in 2021 and 19 million tonnes in 2022, a decline of 40 percent. According to authorities, Ukraine's 2023 production may fall further due to lack of funds and the harvest is unlikely to exceed 15 million tonnes.⁷ Even if production would keep up to some extent at 2022 levels, it is not sure whether and how much of this can be exported due to domestic demand, damage to storage and export infrastructure and whether the Black Sea Grain Initiative will remain in place.

Figure 1: Wheat export prices (January 2019 – January 2023)



Source: International Grains Council²

According to United Nations (UN) data, corn has been the most exported commodity under the Black Sea Grain Initiative between August 2022 and January 2023 (7.8 million tons), followed by wheat (4.8 million tons).⁸ Measured in tonnage, almost half of all Black Sea Grain Initiative shipments went to high income countries (47.5 per cent) and around one-fifth to low income or lower middle income countries (20.5 per cent). In the case of wheat, low income or lower middle-income countries have a slightly greater share (44.7 per cent), yet Africa received only 21.3 per cent of wheat shipments under the Initiative. During 2019-2021, around 47 per cent of Ukraine's wheat exports went to Africa (measured in value terms) which implies that Africa's share in Ukraine's wheat exports under the Black Sea Grain Initiative is lower than it was previously. The UN figures might however not record re-exports including food aid shipments which might be routed through Turkey or a European port, for instance.

Oil seeds

Ukraine is one the largest exporters of sunflower oil in the world, responsible for up to 46 per cent of sunflower-seed and safflower oil production. The second largest producer is Russia⁹. While sunflower oil is very popular in Europe and in several countries in Africa, Africa's dependency on imports seems relatively muted for most countries: its total sunflower oil imports were around USD 1.5 billion in 2021, with Ethiopia, Djibouti and Sudan accounting for 52 per cent.

Yet, the Ukraine crisis is hitting Africa and other developing country regions as substitutes for sunflower oil such as soy oil, palm oil and peanut oil have become more expensive. Indonesia, a major palm oil exporter, had instituted export restrictions in a bid to stem domestic price increases. Even though the ban was lifted after less than a month¹⁰, it contributed to food price inflation in other countries, for instance in India.¹¹ By September 2022 the price of palm oil was at a 1-year low which cooled down food price inflation despite some companies trying to continue selling oil at higher price points.¹²

Since there is a higher substitutability for oil seeds compared to wheat, and to the extent consumers are able to switch vegetable oils, the impact of the crisis in Ukraine on the oil seeds market might be more of a temporary nature. In fact, the Food and Agriculture Organization (FAO) Vegetable Oil Price Index averaged 152.6 points in September 2022, marking the lowest level since February 2021, reflecting lower prices across palm, soy, sunflower and rapeseed oils.¹³

Natural gas

European countries have set themselves policy targets to rapidly reduce their reliance on Russian gas. In the short term, it appears that Russia lacks the financial, infrastructural and logistical means to redirect all of its gas to other countries. Europe's policy means higher demand on the international gas market and since sup-

plies cannot directly adjust to this increased demand, the price of natural gas is likely to remain high for the entire world.

In the medium term, Russia might be able to keep up its overall gas exports at current levels but gas fields which currently serve Europe might continue to see a longer-term glut especially if there is no infrastructure in place to transport the gas to other destinations. Russia's annual exports to European countries was around 170 bcm.¹⁴ It has a very ambitious plan to increase its liquefied natural gas (LNG) export capacity with another 70 to 150 bcm by 2025, compared to 2021 levels.¹⁵ Russia is also increasing pipeline exports to Turkey, and there is potential export capacity of 15.75bcm with Turkstream 2 but it is unclear whether this capacity will be online and/or utilized.¹⁶ Capacity utilization of the Power of Siberia pipeline could be increased by 28 bcm and a new Power of Siberia-2 pipeline towards China would have a capacity of 50bcm¹⁷, but these are connected with other fields than the Europe-directed pipelines.

Africa's LNG infrastructure is mainly constructed to serve exports to outside Africa. Yet, investment in LNG import infrastructure is an emerging trend especially for purposes of domestic power generation. Ghana's Tema LNG Terminal could be on-line this or next year.¹⁸ South Africa is assessing the potential for establishing the country's first LNG import and distribution terminal at the Ngqura (Coega) deepwater port in the Eastern Cape.¹⁹ Mozambique's LNG terminal in Matola harbour is expected to receive its first shipments of gas by 2025.²⁰ Nonetheless, LNG regasification capacity is concentrated in Asia. Asia also leads global regasification capacity additions in the period 2022-2026.²¹ It is therefore expected that Asia would be the main destination of (redirected) Russian gas to the extent the LNG export infrastructure (including ships) would be in place.

Fertilizers

Russia is the world's largest exporter of fertilizers, accounting for 23% of ammonia exports, 14% of urea exports, 10% of processed phosphate exports, and 21% of potash exports.²² Furthermore, Belarus, also subject to Western sanctions, is a major potash exporter.²³ Ukraine is not a major fertilizer exporter.

It is generally assumed that fertilizer prices will be in tandem with international gas prices as nitrogen derived from natural gas is the key input for nitrogen-based fertilizer. In other words, fertilizer prices are expected to remain high as well for the time being. Even if gas prices might dip, due to relative concentration in the trade and production of fertilizers elevated prices can continue when commodity prices (e.g. wheat) remain high.²⁴

The majority of Russia natural gas production is not destined for exports, but for domestic production with a share of over half to 2/3 depending on sources and the year. Gas is used in energy intensive industries such as power generation, production of aluminum and nitrogen fertilizers. In the short to medium term, Russia could gear

the gas it cannot export (in particular from Europe connected field) towards domestic gas consumption to increase production of exportable goods, including electricity, steel, aluminum and fertilizer.

An important implication of this scenario could be that the price of Russia's (nitrogen) fertilizer as well as other exportable products could come down for non-Western markets that do not apply sanctions. In some cases, (relatively) lower priced imports could be welcomed by developing countries (e.g., for fertilizers) but in other cases it could lead to concerns of competitiveness of domestic industries producing energy intensive goods.

II. Regional food security implications

This section looks at regional food security implications for three developing country regions, Africa, developing Asia and Latin America and the Caribbean. Annex 1 shows the countries belonging to the respective developing country regions. The focus will be on wheat and fertilizer, given that these commodities are the most impacted by the Ukraine crisis and consequent developments.

Wheat

Wheat is a staple food and access and availability to affordable wheat is important for the food security of many developing countries. Nonetheless, the importance of wheat in diets varies across countries. The subregions with the highest annual per capita wheat consumption are Northern Africa (143.8 kg per year) and West and Central Asia (132.6 kg). Subregions with relatively low levels of wheat consumption are Central & South America (50.5 kg), East & Southeast Asia (49.6 kg) and Sub-Saharan Africa (25.2 kg).²⁵ Within subregions the importance of wheat in diets varies. The average for the South Asian subregion is more or less the world average. Yet, in Pakistan, wheat flour contributes 72% of calorific intake, with per capita wheat consumption at around 124 kilograms per person each year.²⁶ Furthermore, within countries, wheat consumption varies. Notably, in the north of China and India wheat consumption is higher than in the south.

Most developing countries are net importers of wheat. Based on trade data for the three-year period 2018-2020, two countries in developing Asia (India and Lao PDR) and three countries in Latin America and

Caribbean (Argentina, Paraguay, Uruguay) are net wheat exporters. None of the African countries are net wheat exporters. In total 24 developing countries have a value of net wheat imports higher than USD 1 billion annually (see Table 1 below).

Stocks

With respect to global availability of wheat, global wheat stock levels are at much higher levels than they were during previous crises in 2008 and 1996. In 2008, the world's stock-to-utilization ratio for wheat was around 22% and 18%+ for all cereals whereas it was 15.5% in 1996. At present it stands at around 37% for wheat and over 29% for cereals.²⁸

Globally, overall ending stocks for the 2021/2022 season were similar to the opening stocks, with estimated increases in stocks larger than 5 million tons in Ukraine, China and European Union. On the other side, India's wheat stock declined significantly with 8.3 million tons indicating it served a vital role in supplying world markets in the 2021/2022 season.

Maintaining or increasing global stock levels does not necessarily mean increased availability of wheat to world markets. A lot of grain remains in Ukraine where it is slowly moved out. Some countries have stocks but those would mainly serve domestic populations which is the case for instance for African countries. China's wheat stock appears to be the largest in the world representing 46 per cent of world total. Yet, the country does not have a history of exporting wheat (it is a net wheat importer). On the other hand, India has exported a lot of wheat including after instituting an export ban on wheat, under which exports have continued for approved requests by countries "to meet their food security needs".²⁹ Another major country with wheat stocks, Argentina, had increased their wheat export quota from 8 to 10 million tons leading to additional supply to the world market as well.³⁰

Looking at the forecasts (Table 2), countries with higher forecasted stocks by the end of the 2022/2023 season compared with the start of the 2021/2022 season include Russia, China, Ukraine, European Union and Australia. For Egypt, Nigeria, South Africa, the African countries with estimates by the International Grains Council, the stock situation at the end of the 2022/2023 season is predicted to be worse than the start of the 2021/2022 season. In the case of India, a further fall in their wheat reserves to 16.8

Table 1 - Net wheat exporters and largest net wheat importers in developing country regions

Developing country region	Net wheat exporters (2018-2020)	Net wheat importers with a wheat trade deficit of more than USD 1 billion annually (2018-2020)
Asia	India, Lao PDR	Indonesia, Türkiye, Philippines, China, Bangladesh, Korea, Viet Nam, Thailand, Yemen, Malaysia, Iran
Latin America and Caribbean	Argentina, Paraguay, Uruguay	Brazil, Peru, Chile, Colombia, Ecuador ²⁷
Africa	None	Egypt, Algeria, Nigeria, Morocco, Sudan, Tunisia, Kenya, Ethiopia, South Africa

Source: Author's calculations based on data from International Trade Centre (ITC) TradeMap, trade balance for the HS code 1001 (Wheat and meslin)

Table 2: Forecasted wheat stocks for 2021/2022 and 2022/2023 seasons

Country	Opening stock 2021/2022	Ending stock 2021/2022	Change in stock 2021/2022	Forecasted end stock 2022/2023	Increase in stock 2022/2023 compared with opening stock 2022/2023	Increase in stock 2022/2023 compared with opening stock 2021/2022
Russia	12.2	11.3	-0.9	22.5	11.2	10.3
China	128.3	133.3	5	137.5	4.2	9.2
Ukraine	1.6	7.2	5.6	7.6	0.4	6
EU	11.1	16.7	5.6	12.8	-3.9	1.7
Australia	2.9	4.5	1.6	3.7	-0.8	0.8
Nigeria	0.7	0.7	0	0.6	-0.1	-0.1
South Africa	1	0.8	-0.2	0.9	0.1	-0.1
Kazakhstan	1.1	0.5	-0.6	0.7	0.2	-0.4
Egypt	4.2	3.5	-0.7	3.8	0.3	-0.4
Canada	5.7	3.7	-2	5.2	1.5	-0.5
Brazil	1.2	0.6	-0.6	0.7	0.1	-0.5
Argentina	1.7	2	0.3	1.2	-0.8	-0.5
Turkey	5.2	4.9	-0.3	4.1	-0.8	-1.1
US	23	17.9	-5.1	16.7	-1.2	-6.3
India	27.8	19.5	-8.3	16.8	-2.7	-11
Other countries	50.5	52.1	1.6	50.8	-1.3	0.3
World total	278.2	279.2	1	285.6	6.4	7.4

Source: International Grains Council, queried 17 October 2022³¹

million tons is forecasted. To put this number in context, the minimum amount in India's in previous periods has been around 10 million tons.

The figures for Ukraine assume a production of 21.5 million tons for the 2022/2023 season but recent estimates put that much lower at 15 million tons. This might lead to a corresponding decrease of exports of 6.5 million tons, a gap which would have to be filled by other countries. In such event, the forecasted figures seem to suggest that countries such as India (if willing to further reduce its stocks) as well countries with substantial reserves with significant increases in (forecasted) reserves in particular Russia and China could be important stabilizers in world wheat trade.

Import dependency of countries on wheat from Ukraine and Russia

The conflict in Ukraine negatively impacts the global availability and/or accessibility of wheat, in particular for countries that have been dependent on imports from Ukraine and/or Russia that cross the Black Sea. For instance, Egyptian imports of wheat from the Black Sea region all go via the Black Sea and Mediterranean Sea. On the other hand, Mongolia sources virtually all its wheat from Russia but these imports passing by its land borders are unlikely to be impacted by the conflict in Ukraine.

Possibly other Black Sea exports might be impacted if the on-going conflict would have a bearing on Black Sea trade in general. This would be the case primarily for exports from Romania and Kazakhstan. In the case of Kazakhstan, exports via the Black Sea have been relatively limited; most of its wheat is destined to neighbouring countries and other countries in Asia. Yet, its exports via the Black Sea including to non-traditional partners have increased in response to the conflict. In the case of Romania, Egypt has been the main destination for its wheat exports and any further aggravation of the conflict would cause (additional) disruption. Jordan and Sudan are also important developing country destinations for Romanian wheat.

In this paper, a 'high' wheat import dependency of a country on a particular exporter is deemed to exist when at least 10 percent of total wheat imports (measured in value) during 2008-2010 originated from that exporter.

For net wheat imports in the developing Asia region³², Ukraine and Russia together account for 38.9% of total wheat imports (Ukraine 15.8%, Russia 23.0%). Ten countries have a high import dependency on Ukrainian wheat. For Lebanon, Pakistan and Indonesia, Ukraine accounts for 25% of total wheat imports. Russia is an important wheat supplier for thirteen Asian developing countries. Eight countries have low wheat import dependencies on either Russia and Ukraine and have sourced their wheat mainly

Table 3: Wheat import dependencies on Ukraine and Russia for Asian developing country region

		Dependency on Ukraine wheat imports	
		Low	High
Dependency on Russia wheat imports	Low	Cambodia; Myanmar; China ³⁵ ; Afghanistan; Iraq; Nepal; Bhutan; Maldives	Philippines; Malaysia; Jordan; Thailand; Indonesia; Korea, Republic of
	High	Türkiye; Palestine, State of; Viet Nam; Oman; Sri Lanka; Iran; Mongolia; Korea, DPR; Syrian Arab Republic	Pakistan ³⁴ ; Bangladesh; Yemen; Lebanon

Source: Author’s calculations based on ITC Trade Map

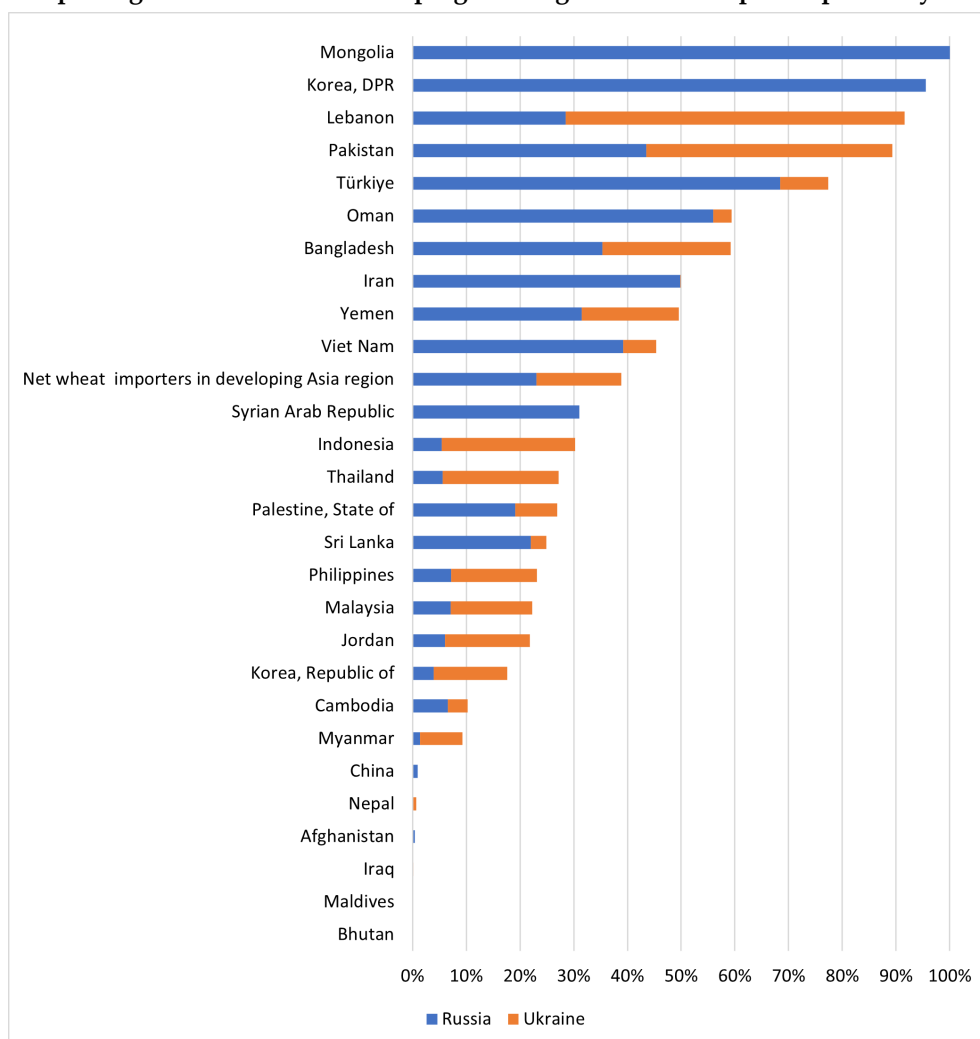
from elsewhere. Pakistan, Bangladesh, Yemen and Lebanon have high wheat import dependencies on both Ukraine and Russia and are therefore expected to be among the most exposed by the conflict (see Table 3 and Figure 2).

In Latin America and Caribbean, only a number of net wheat importing countries import wheat from either Ukraine or Russia. Ecuador is the only country with imports of wheat from Ukraine. Six countries, namely Brazil, Ecuador, Haiti, Nicaragua, Peru and Venezuela have imported wheat from Russia during 2018-2020, of which three have an import dependency

of more than 10 per cent: Nicaragua (81.6% of its wheat imported from Russia), Venezuela (29.5%) and Haiti (15.7%).

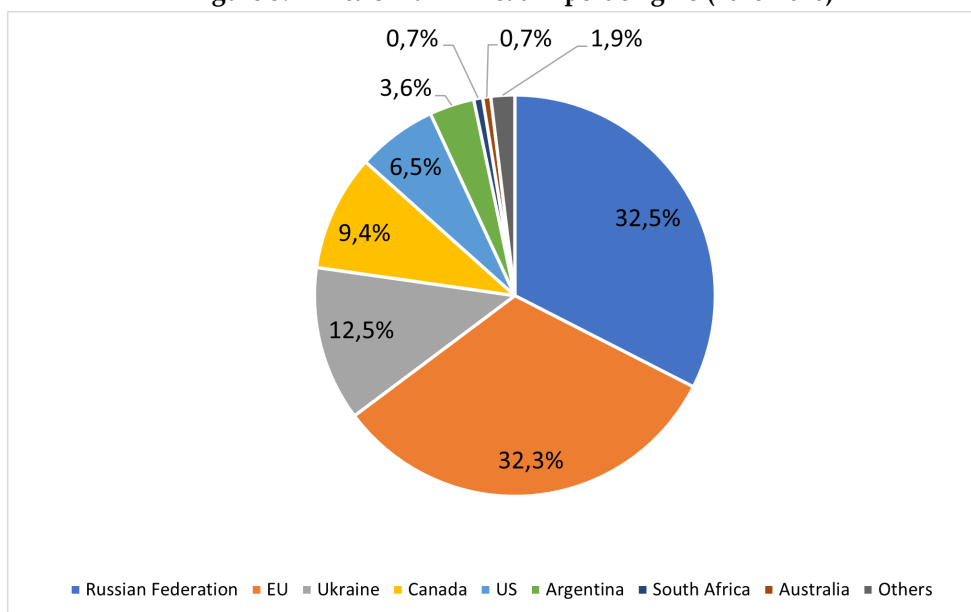
In the case of Africa, Russia has been the most important wheat supplier for Africa, closely followed by the European Union (both around 1/3) and Ukraine to a lesser extent (12.5%) (see Figure 3). Together Ukraine and Russia account for around 45% of Africa’s wheat imports, higher than for wheat importers in the developing Asia region. As such, and also considering that all of its imports from Black Sea countries have to be transported by ship, Africa is most exposed by the conflict in Ukraine

Figure 2: Wheat importing countries in the developing Asia region—wheat import dependency on Russia/Ukraine



Source: Author’s calculations based on ITC Trade Map

Figure 3: Africa's main wheat import origins (2018-2020)



Source: Author's calculations based on ITC Trade Map

Note: Measured in import value for HS Code 1001, for the years 2018-2020

with respect to its wheat sourcing, and food security.

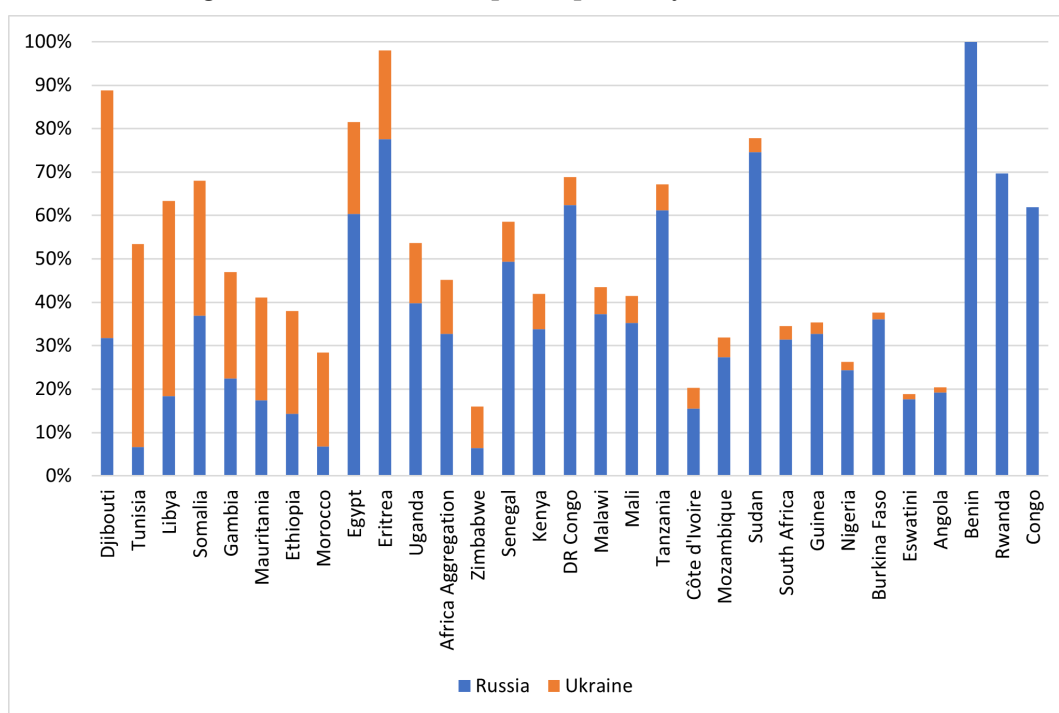
The African wheat import dependency³⁵ on Russia/Ukraine and the distribution of imports between Russia and Ukraine varies by country (see Figure 4).

All net wheat importing African countries will be hit hard due to higher prices and possibly unavailability, with those most dependent on imports from Ukraine being hit hardest. In case of a significant reduction of

75% in wheat imports from Ukraine and assuming no change in imports from Russia, Africa would face an import gap of around 3.5 million tons for which alternative suppliers would need to be sought. Around 2/3 of the wheat import gap is accounted for by three North African countries – Egypt, Morocco and Tunisia (see Table 4).

If imports from Russia were to decline as well, this amount would increase dramatically, with 1.2 million tons

Figure 4: Africa's wheat import dependency on Russia/Ukraine



Source: Author's calculations based on ITC TradeMap

Notes: Based on average values during 2018-2020. Import dependency is measured in terms of value. African countries not listed have no recorded imports from either Russia or Ukraine.

Table 4: Africa wheat import gap (thousands of tons) in different scenarios (2021/2022 season)

Importers	No change in imports from Russia			Reduction of 10% of wheat imports from Russia		
	UA 33.3% Import Reduction	UA 50% Import Reduction	UA 75% Import Reduction	UA 33.3% Import Reduction	UA 50% Import Reduction	UA 75% Import Reduction
Africa	1,532	2,322	3,483	2,743	3,533	4,694
Egypt	595	902	1,353	1,109	1,416	1,867
Morocco	240	364	546	263	386	568
Tunisia	217	328	492	226	338	502
Libya	119	180	270	134	195	285
Sudan	29	44	66	230	245	267
Ethiopia	99	150	224	117	168	242
Nigeria	28	42	63	137	151	173
Kenya	37	56	84	84	103	131

Source: Author's calculations based on ITC TradeMap

Notes: UA stands for Ukraine. Based on 2018-2020 import values assuming an average import price of USD 333.3 / ton during that period

increase in import gap for each 10 percentage points decrease in imports.

Fertilizers

Fertilizer production and exports are relatively concentrated across developing country regions (see Table 5). Twelve developing countries are net exporters of fertilizers. Of these, Venezuela and Nigeria's exports have been relatively limited but, given that both countries are oil/gas producers, there is potential for growth. For instance, a large fertilizer production facility opened this year in Nigeria is expected to reduce Nigeria's dependence on imported fertilizer and to boost exports.³⁶

The African continent has significant fertilizer production capacity. Africa produces considerable amounts of nitrogen fertilizer (in particular Egypt, Algeria, Morocco) and phosphate fertilizers (in particular Morocco). Interestingly, even before the current crisis, Africa's demand for fertilizer was lower than its production, in particular for nitrogen fertilizer and phosphates.³⁸ The FAO estimates that Africa's demand for fertilizer is lower than its production, but higher for potassium. This implies that Africa could be self-

sufficient for most types of inorganic fertilizers except for potassium, but that other factors prevent this which may include the price of inorganic fertilizers, lack of marketing by African producers in African destination markets and/or trade costs. In several African countries fertilizers are already duty free or benefit from duty exemptions. Yet, the implementation of the African Continental Free Trade Area (AfCFTA) could facilitate intra-African trade in fertilizers in cases where the Most Favoured Nation (MFN) applied rate is above zero.

Fertilizer production capacity in Latin America and Caribbean (LAC) appears relatively limited. Trinidad and Tobago and Venezuela are the only net exporters in this region. At the same time, many Latin American countries are major food producers and exporters. This implies that LAC countries import a lot of fertilizer from outside their region. Total fertilizer imports were USD 13.6 billion annually during the period 2018-2020. The most important suppliers for the LAC region were Russia (21.9% of total), China (16.3%), Morocco (8.2%), Canada (7.8%), United States of America (6.7%), Egypt (3.8%), Qatar (3.1%) and Belarus (2.8%). Brazil accounts for the lion's share of imports (63 per cent of total LAC imports of fertilizers)

Table 5: Net fertilizer exporters and largest net fertilizer importers in developing country regions

Developing country region	Net fertilizer exporters (2018-2020)	Net fertilizer importers with a fertilizer trade deficit of more than USD 250 million annually (2018-2020)
Asia	China, Oman, Jordan, Iran, Lao PDR, Lebanon ³⁷	India, Thailand, Indonesia, Türkiye, Bangladesh, Viet Nam, Pakistan, Philippines, Myanmar, Malaysia
Latin America and Caribbean	Trinidad and Tobago, Venezuela	Brazil, Argentina, Colombia, Peru, Paraguay, Ecuador
Africa	Morocco, Egypt, Algeria, Tunisia, Nigeria	Ethiopia, Zambia, South Africa, Zimbabwe, Djibouti

Source: Author's calculations based on data from ITC TradeMap, trade balance for HS Chapter 31 ('Fertilizers')

worth more than USD 8.5 billion annually.

Increases in global fertilizer prices may have devastating consequences on short-term food production for the next season 2022/2023. Some estimate that food production in Africa could fall by at least one-third because of reduced fertilizer imports.³⁹ Anecdotal evidence shows that farmers are reducing fertilizer use, are considering other crops using less fertilizer, reducing acreage or even stopping farming for the market altogether.⁴⁰ Staple foods such as wheat and maize as well as certain vegetables (e.g. cabbages) have a relatively high fertilizer use and the aggregate of decisions by farmers based on current fertilizer prices vis-à-vis expected sales prices could result in lower production of such crops.

According to a Senior Economist at the FAO Regional Office for Asia and the Pacific, “price spikes have immediate and long-term direct and indirect impacts on food security. In the near term, higher prices increase production costs and lower input use, negatively impacting food production.” He also suggested immediate government support to mitigate the crisis, which may avoid negative longer-term impacts on future production, productivity and farmers’ livelihoods.⁴¹

In response, some countries have increased expenditure on fertilizer subsidies to support their farmers. In the case of India, its fertilizer subsidies might reach 2.55 lakh crores or more than USD 31 billion during the fiscal year 2022/2023 running from March to February.⁴² As a comparison, its subsidies notified to the World Trade Organization (WTO) under Article 6.2 (input subsidies for low-income resource poor farmers) for fertilizer, irrigation and electricity in 2020/2021 were about that amount. The split between the three types of subsidies is not known, but this gives an indication that total Article 6.2 subsidies in 2022/2023 will overshoot the amount spent in 2020/2021.⁴³ This will undoubtedly create strain on government budgets.

Export restrictions

Export restrictions on fertilizer or fertilizer inputs applied by some major exporting countries in a bid to limit price increases of fertilizer on their domestic market might have domino effects in other countries. Russia already applied an export quota system⁴⁴ since December 2021, with the quota increasing slightly at the end of March 2022.⁴⁵ According to a Reuters report, China applied a quota system to limit exports of phosphates, a key fertilizer, in the second half of 2022.⁴⁶ The same report notes that as of mid-July 2022, the quota allocations were not yet announced publicly. China is the world’s biggest phosphates exporter, shipping 10 million tonnes last year, or about 30 per cent of total world trade. Most of these exports went to other Asian countries, with India, Pakistan, Bangladesh, Thailand and Viet Nam accounting for around two-thirds of China’s phosphates exports. According to some reports this has contributed to higher fertilizer prices in Viet Nam.⁴⁷

At the 12th WTO Ministerial Conference which took place from 12 to 17 June 2022, trade ministers “resolved to ensure” that any emergency measures introduced to address food security concerns shall minimize trade distortions as far as possible; be temporary, targeted, and transparent; and be notified and implemented in accordance with WTO rules.⁴⁸ One of these rules is Article X of the General Agreement on Tariffs and Trade (GATT) which requires governments to promptly publish trade regulations in such a manner as to enable governments and traders to become acquainted with them.

III. Possible policy responses through South-South and Triangular Cooperation

Food insecurity is a serious global emergency especially for the 2022/2023 season. Policy actions are required to mitigate food insecurity and to build resilience for the future in the short, medium and long term. This section provides a number of possible responses through expanded South-South and Triangular Cooperation (SSTrC) in response to food crisis in the area of trade.

Short term

1) Institutional collaboration on wheat stock buying

Developing countries could explore purchases from countries that currently maintain large wheat stocks while ensuring that imported wheat meets relevant quality standards.

This is mainly relevant for Africa and certain subregions/countries in the Asian developing country region. In the case of Africa, its overall shortfall for 2021/2022 appears to have been modest at around 3.5 million tons, at least when compared with existing global food security stocks.

The situation for 2022/2023 might be worse. Nonetheless, the forecasted figures seem to suggest that countries such as India (if willing to further reduce its stocks) as well as countries with substantial reserves with significant increases in (forecasted) reserves such as Russia and China could supply wheat to other developing countries in need.

In some cases, joint purchasing by a number of developing countries might help in securing the required quality, quantity, delivery terms and/or price.

2) Policy dialogue on better implementation of existing WTO rules on export prohibitions and restrictions

Export restrictions on wheat and fertilizer by major exporters can have major impacts on other developing countries and in particular net food importing developing countries. Under WTO law, export taxes are in principle allowed as they are generally not considered ‘export restrictions’. Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting country are allowed as well (Article XI.2(a) of GATT). Nonetheless, under Article 12 of the Agreement on Agriculture, developing country Members who are net food exporter of the concerned foodstuff as well all other Members have two

main obligations: 1) notification, as far in advance as practical and 2) consultation upon request, with any other Member having a substantial interest as an importer.

Furthermore, Article X.1 of GATT requires prompt publication of such restrictions “in such a manner as to enable governments and traders to become acquainted with them” and Article X.2 of GATT states that export restriction or prohibition are not to be enforced prior to publication.

The WTO Committee on Agriculture is the forum for policy dialogue to discuss the implementation of existing WTO rules on export prohibitions and restrictions. Policy dialogue on publication, notification and consultation obligations which apply in the case of export prohibitions and restrictions is especially pertinent for net food importing developing countries (NFIDCs). However, export restrictions are not always notified, and consultation does not seem to be commonplace. It is also not always clear which Member is to be or should have been consulted by an exporter.

Publication of measures implementing export prohibitions and restrictions and consequent discussions about them in the Committee on Agriculture are also important for better understanding. For instance, India’s export ban on wheat was instituted after exceptional drought conditions and contains important exemptions which have allowed some wheat exports to continue, in particular an exemption enabling the honoring of existing contracts and on-demand exemptions by importing countries on account of their food security.

3) Create a common understanding on ‘food security products’

In response to the COVID-19 pandemic, the World Customs Organization (WCO) jointly prepared with the World Health Organization (WHO) an HS classification reference for COVID-19 medical supplies.⁴⁹ The Harmonized System (HS) is used by customs authorities across the world. This reference list catalogues tariff codes considered relevant for combatting the pandemic, such as COVID-19 test kits, protective garments, disinfectants and sterilization products and oxygen therapy equipment.

This list was used as reference *inter alia* for States deciding to voluntarily reduce tariffs and other import restrictive measures for COVID-19 medical supplies, in an effort to increase their accessibility and/or affordability.

A similar exercise could be made for ‘food security products’ in response to the current food security crisis. Such list could include wheat, fertilizer and other soil improvement products and their supply chains. In other words, to have buy-in, it would be advisable to craft a process in which inputs from WTO Members including developing country Members could be collected. FAO and WCO could be the lead agencies in this pro-

cess, and South Centre would be able to provide support as well.

Such an initiative could also take place at the regional level. In the case of Africa, a reference list of ‘food security products’ would be relevant in the context of implementation of the tariff schedules under the AfCFTA and the recommendation of African Union Ministers of Agriculture to eliminate taxes and tariffs on fertilizer and on fertilizer raw materials with a view to increasing agricultural production.⁵⁰

Such a list could be used in several ways by countries, for instance to guide trade policy decisions on tariffs, charges and other import restrictive measures, export restrictions and/or subsidies.

4) Sharing experiences and lessons learned to increase preparedness for future food security shocks

There are multiple avenues to enhance the knowledge sharing and building on the lessons learned and the challenges experienced by the food security crisis, including on the implementation of the Ministerial Declaration on the WTO Response to the COVID-19 Pandemic and Preparedness for Future Pandemics.

Medium term

5) Institutional collaboration between developing countries on wheat stock/fertilizer buying

Developing countries could explore longer term supply contracts with larger (developing country) exporters of wheat and fertilizers. World markets in oil and gas are characterized by a mix of short- and longer-term contracts. Food and fertilizer markets are mostly spot markets. The price of food and fertilizers is subject to large up and downward swings through the years. It could be in the interest of both exporters and importers to agree or support longer term contracts for the supply of food and/or fertilizer.

Barter deals could also be explored. For instance, India is a net rice exporter whereas Indonesia is a net rice importer. However, India is a net palm oil importer whereas Indonesia is a net palm oil exporter.

6) Explore an arrangement for the stabilization of wheat and/or fertilizer markets

An arrangement for the stabilization of wheat and/or fertilizer markets could contain one or more of the following elements: supply or price commitments by parties (which could include risk or market based instruments), maximum export prices, technical/financial assistance to increase wheat production, specific investment facilitative measures and export financing by banks located in parties to such agreement.

Such arrangement could provide a more predictable solution compared to bilateral deals and would be especially important for least developed countries and NFIDCs.

Long term

7) Knowledge sharing on national fertilizer strategies and policies to increase domestic fertilizer production

As the data shows in this paper, fertilizer production is concentrated. More geographic dispersion in production could increase resilience and access to fertilizers by farmers in developing countries.

More investment in domestic fertilizer production will mean different things for each country. Each country would need to draft a fertilizer strategy which should be based on analysis of existing and future resources and capabilities versus needs. This may imply for countries with existing or increasing natural gas production, the construction of new plants (e.g. in the case of Nigeria). For countries with a high need for fertilizer it could mean the construction of fertilizer granulation plants closer to consumers.

An important role for SSTRc could be knowledge sharing on national fertilizer strategies and policies. The Brazil Fertilizer Plan 2050, issued in January 2022, could be one example for other developing countries.⁵¹ It was drawn up with inputs across multiple government agencies and other stakeholders. The Plan aims to expand the local production of fertilizers, reduce external dependence on technology and supply, mitigate the impacts of possible crises, and increase the competitiveness of Brazilian agribusiness in the international market.

The plan contains an array of measures to be taken by 2025, 2030, 2040 and 2050 with respect to inorganic fertilizers (based on nitrogen, phosphate, potassium) as well as organic fertilizers. Among other things, it foresees reduction in tariffs for machinery, equipment and inputs without a national equivalent, aiming at modernization and consequently the productivity and competitiveness of the industry.

By 2025, Brazil would, *inter alia*, have made regulatory adjustment to attract investors in fertilizer chains and facilitate investments in research and development (R&D) and large-scale production of alternative mineral sources of phosphate and potassium. With respect to organic/organomineral fertilizers, the Plan proposes *inter alia* the adoption of mandatory targets for the management and segregation of solid waste by the municipal authorities, which will lead to an increase in the supply of organic waste for the production and consumption of organic and organomineral fertilizers. The licensing rules of companies producing organic fertilizers and soil conditioners will also be adapted to the realities of the sector.

8) Develop the capacity for the collection and use of organic waste

Many classes of organic waste can be used as input for organic fertilizer or other soil improvement products, rather than burning, landfilling, or throwing it. It would also have important co-benefits. Burning of sug-

arcane stalks for instance can cause pollution and concomitant health hazards. Landfilling can cause enormous emissions of methane (CH₄), a powerful greenhouse gas.⁵² Even humanure can be used as inputs for the production of biogas or fertilizer⁵³, and was used for a long time in Japan and around cities in the United States.⁵⁴

Nonetheless, this is easier said than done. Trying to build a circular economy through using organic waste as inputs to fertilizer requires collection and processing systems. SSTRc can play a role in capacity development in this area.

9) South-South dialogues on increasing wheat production

In Africa, especially land-surplus economies such as Mozambique, Zambia, Angola, Zimbabwe, Madagascar and Tanzania with current low population density may consider putting new land under wheat cultivation. This will however require complementary investment in roads, irrigation, storage and marketing systems. Care should however be exercised to ensure that such expansion will not cause undesirable environmental and social tradeoffs.⁵⁵ SSTRc could be useful to facilitate dialogue on possible pathways towards increasing wheat production.

IV. Conclusions

The current food security crisis has had a negative impact on many developing countries, including on the price, accessibility and availability of wheat and fertilizers. The analysis shows that the situation in the future might not be resolved soon. At the same time, there are also differences in implications for regional food security. Together, this highlights the urgent need for cooperation within regions as well as between regions. Therefore, South-South and Triangular Cooperation, including in the area of trade, can be a very valuable instrument to address the food security crisis. This Policy Brief provides a number of possible policy responses through South-South and Triangular Cooperation.

Endnotes:

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Annex 1: Developing country groupings

Developing region	Countries
Africa	Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; Congo; Congo, Democratic Republic of the; Côte d'Ivoire; Djibouti; Egypt; Equatorial Guinea; Eritrea; Eswatini; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya, State of; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; South Sudan; Sudan; Tanzania, United Republic of; Togo; Tunisia; Uganda; Zambia; Zimbabwe
Asia	Afghanistan; Bangladesh; Bhutan; Cambodia; China; India; Indonesia; Iran, Islamic Republic of; Iraq; Jordan; Korea, Democratic People's Republic of; Korea, Republic of; Lao People's Democratic Republic; Lebanon; Malaysia; Maldives; Mongolia; Myanmar; Nepal; Oman; Pakistan; Palestine, State of; Philippines; Sri Lanka; Syrian Arab Republic; Thailand; Timor-Leste; Türkiye; Viet Nam; Yemen
Latin America and Caribbean	Antigua and Barbuda; Argentina; Barbados; Belize; Bolivia, Plurinational State of; Brazil; Chile; Colombia; Costa Rica; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Grenada; Guatemala; Guyana; Haiti; Honduras; Jamaica; Nicaragua; Panama; Paraguay; Peru; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; Uruguay; Venezuela, Bolivarian Republic of

Note: this list is based off the Group of 77 (G-77) list of members⁵⁶ with a few modifications. Pacific Island countries have been excluded. It has been compiled for purposes of this paper and for analytical purposes only. It does not represent South Centre's view on the development status of countries.

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- ³³ According to the trade statistics, China has zero imports of wheat from Ukraine during 2018-2020.
- ³⁴ Based on the year 2020 only. Pakistan import values for 2018 and 2019 were reported as zero, but should have been treated as 'nil' (i.e. unknown).
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The South Centre
International Environment House 2
Chemin de Balexert 7-9
PO Box 228, 1211 Geneva 19
Switzerland
Tel.: +41 22 791 8050
south@southcentre.int
<http://www.southcentre.int>

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