



Global Hunger: The Ukraine Effect

Conflict and Hunger

June 2022

In May 2018, the Security Council of the United Nations adopted [resolution 2417](#), which “recalls the link between armed conflict and violence and conflict-induced food insecurity and the threat of famine”. Resolution 2417 called on all parties to armed conflict to comply fully with international humanitarian law. It urged all conflict parties to protect civilian infrastructure critical for the proper functioning of food systems. **This document is part of a series of analytical reports that discuss conflict and hunger. It explores how different conflict incidents and reactions to them affect food security.**

On the 24 February 2022, Russia invaded Ukraine marking a steep escalation of the Russo-Ukrainian War, which had begun in 2014. The conflict caused Europe's fastest-growing refugee crisis since World War II with around 5 million individual refugees from Ukraine recorded across Europe.¹ An estimated third of the population was displaced. Key civilian infrastructure has been damaged and destroyed. This affects the wellbeing of Ukrainians. In addition, as Ukraine has been an important global supplier of food products, the impact of conflict on food security is felt globally far beyond the battle fields of Eastern Ukraine.

The conflict has hindered exports of existing Ukrainian food stocks. There are concerns that Ukraine will not be able to harvest current crops, plant new ones or sustain livestock production at pre-invasion levels. There may also be challenges of where to store crops if existing stocks are not exported. In addition, the conflict has reduced production and exports of fertilisers from Ukraine, Russia and Belarus, affecting access to fertilisers and thus food production in many countries around the globe. While the war continues, local, national, and global supply chains are disrupted leading to increased food prices.

The conflict in Ukraine has sparked what is considered the 3rd global food price crisis in 15 years affecting the entire world but causing the most severe challenges for poorer nations.² This conflict-triggered food crisis is likely to last for years. UN Secretary-General Antonio Guterres noted on 20 May 2022 that global food prices had increased by 30% since last year, largely due to cut off of supplies of cooking oil and grain from Ukraine through its ports. He predicted that some countries could face long term famine if Ukraine's exports were not restored to pre-war levels.

“There is enough food in our world now if we act together. But unless we solve this problem today, we face the spectre of global food shortage in the coming months”. UN Secretary-General Antonio Guterres, 20 May 2022.

This briefing note explores the impact of the Ukrainian conflict on global food supplies by examining how specific conflict actions and incidents within Ukraine contributed to global food insecurity. It discusses how conflict events and reactions to them affect food production and exports in the current conflict. It ends by highlighting the context in some of the countries particularly dependent on food imports from Ukraine and Russia.

The impact of conflict on food production and exports from Ukraine

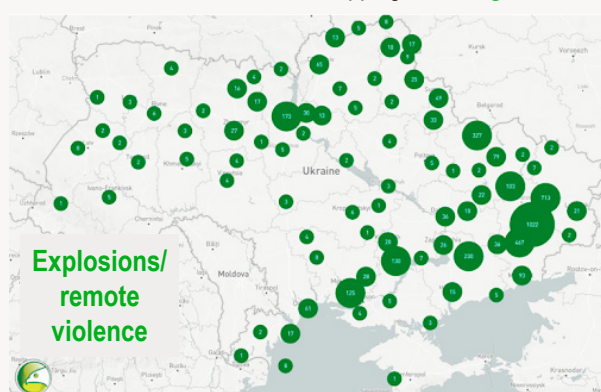
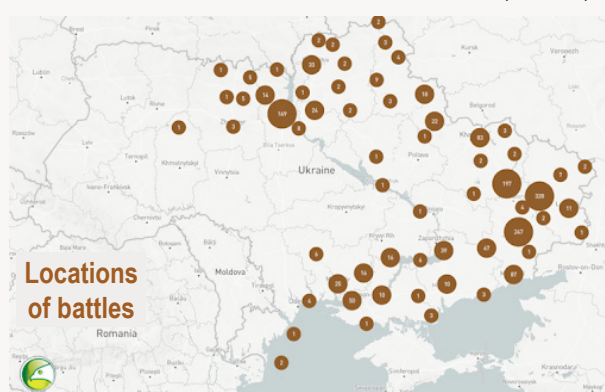
Ukraine has been an important producer and exporter of foods. Military action has critically affected the agricultural and transport infrastructure. There are also indications that there are deliberate blockades motivated by tactical military objectives as well as for strategic and political reasons.³

Food production in Ukraine has been affected by the conflict

For the past years, Ukraine has been a major global supplier of several key foodstuffs. In 2019 it provided 42% of the world's sunflower oil export. In the same year, it supplied 16% of the world's corn exports, nearly 10% of global barley exports, and almost 9% of worldwide wheat exports. Ukraine has supplied the EU, middle and low income countries among them India, Egypt and Yemen. Since Russia launched its most recent, wider, invasion of Ukraine on 24 February 2022 there has been significant physical damage in areas used to grow crops. Battles and troop movements in the east of the country have significantly affected major agricultural lands, while shelling and air strikes and other explosions have reached communities much further West. Even after troops are withdrawn, the risk from unexploded ordinances in these areas will remain high.

Reported conflict locations, 24 Feb-27 May 2022

Source: Armed Conflict and Location Event Dataset ([ACLED](#)). Dataset accessed on 01 June 2022. Mapping: [Hawksight](#)

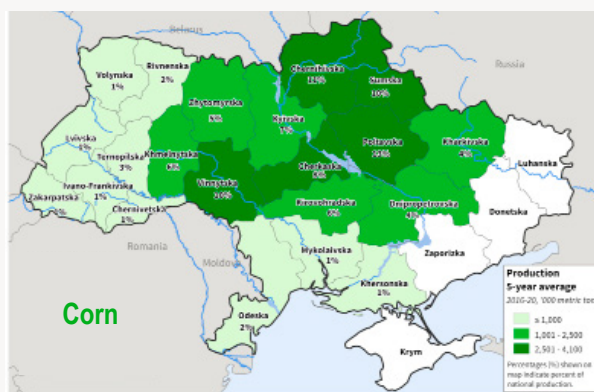
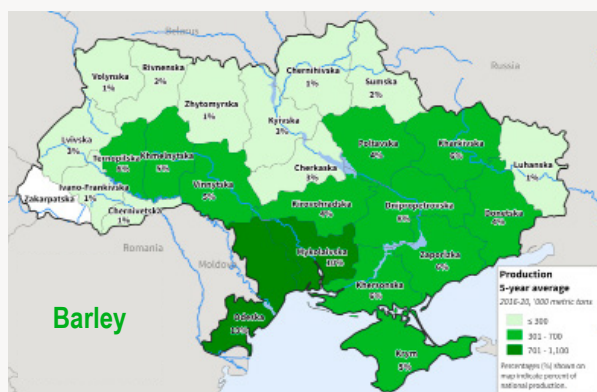
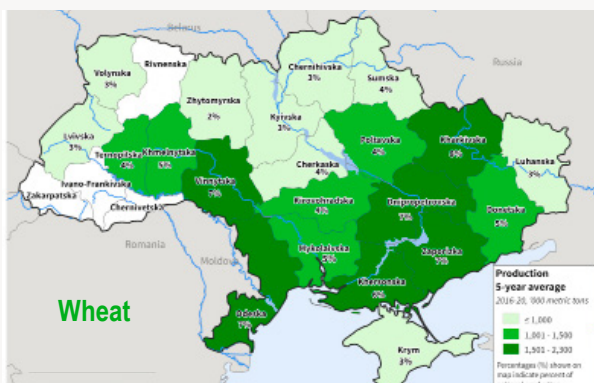


Includes armed clashes and troop movements resulting in taking of territory.

Includes air strikes, shelling, landmines and grenades.

Locations of barley, corn, sunflower and wheat production

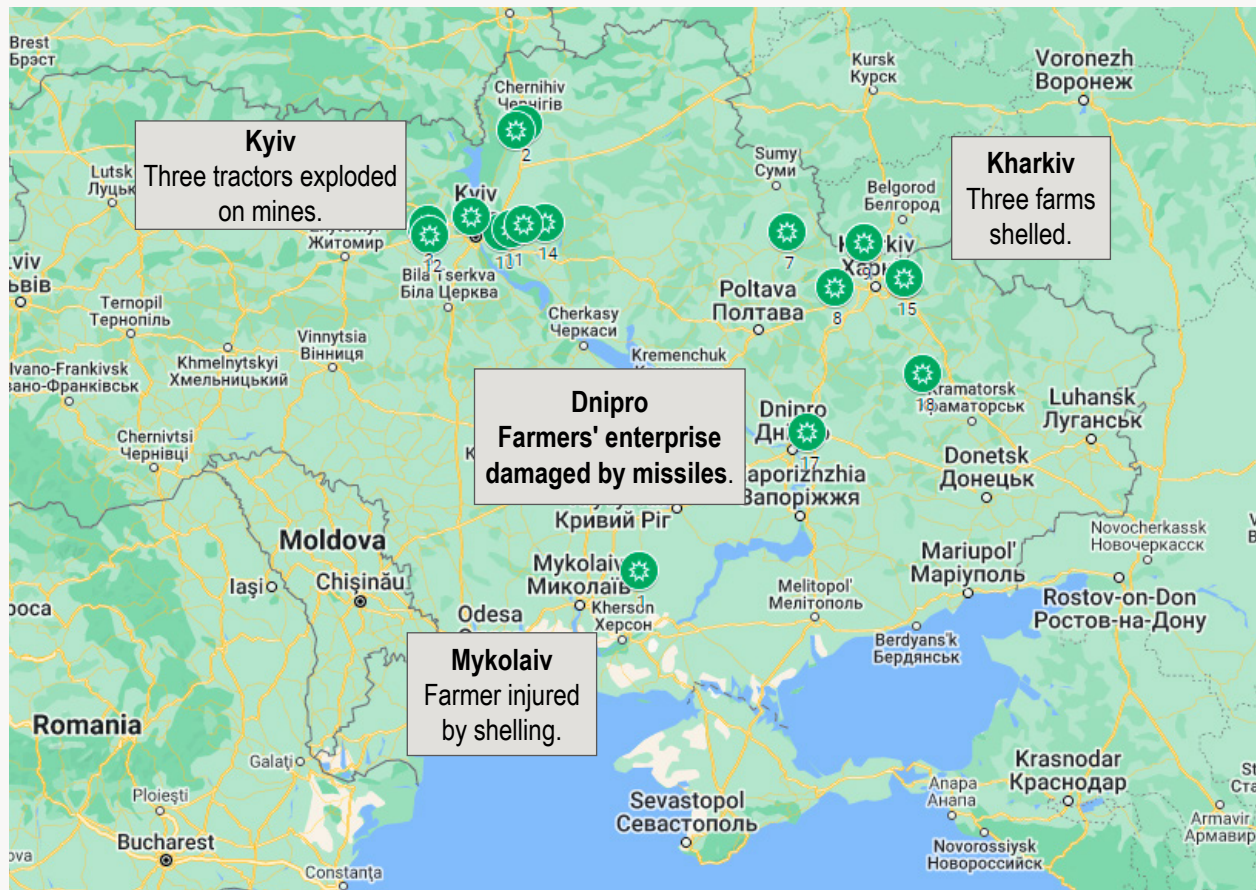
Source: US Department of Agriculture, Foreign Agricultural Service, [Ukraine, Moldova and Belarus - Crop Production Maps](#). Accessed 01 June 2022



Furthermore, many farmers in those areas have suffered damage to infrastructure and equipment. In addition, there is a fuel shortage. If fighting continues over the summer, this will have a significant effect on this year's harvest.

Reported incidents that specify specific damage and destruction to agricultural equipment, access to fields and livestock, 04 Feb-27 May 2022

Source: Armed Conflict and Location Event Dataset ([ACLED](#)).



These specific incidents reflect the locations where agricultural production continues. Where farms are abandoned or agricultural activities are halted, the specific effects on farms are not reported but incidents are recorded with reference to battles, explosions or troop movements without specifying the direct impact on farming (see maps above).

It is likely that the situation will be even more acute in 2023, even if fighting reduces. On 23 March, Ukraine's Agriculture Minister Roman Leshchenko estimated that its spring crop sowing area may fall by half this year from 2021 levels to some 7 million hectares, compared to 15 million hectares planted before the 2022 Russian invasion. Meanwhile, Kyiv-based analyst UkrAgroConsult suggested in its most "optimistic" estimate based on good weather and a rapid end to the war that Ukrainian farmers could sow 3.5 to 4 million hectares of sunflowers this spring, down from 6.8 million hectares last year.

Fertiliser shortages

Even crops such as wheat sown last winter could face lower yields due to challenges obtaining and applying fertiliser. Ukraine used to be a net exporter of fertiliser. However, many factories closed either as a direct result of the conflict or because of an inability to source fuel.⁴ As a result, Ukraine depends on fertiliser imports. For example, the CEO of the Norwegian group Yara, the biggest producer and supplier of fertilisers in Europe, who had produced much of its product in Ukraine, reported in April that it was now trucking fertiliser into the conflict affected country to supply Ukrainian farmers.

According to one pro-Ukrainian business company the Russian military has been directly targeting fertiliser stored from regional to individual farm level in Ukraine.⁵ It remains unclear whether this is a deliberate tactic to exacerbate food shortages or evidence of a concern that ammonium nitrate, in particular, could be used to make improvised explosives that can be used in partisan style warfare.

The impact on fertiliser production has a wider knock-on effect globally as farmers in other countries will see price rises.

Sea blockades and risks to transport hinder food exports

Since the most recent Russian invasion, Russia has blocked hundreds of ships in the Black Sea and Sea of Azov, mostly containing Ukrainian grain exports. This has heightened fears over global hunger. G7 foreign and agriculture ministers met in Germany on 13-14 May 2022 to discuss measures to break the Russian blockade of grain exports from Ukraine's ports, including by trying to open routes through Romanian and Baltic ports. The UN World Food Programme (WFP) estimated that in the eight months before the conflict began, close to 51 million metric tonnes of grain passed through Ukraine's seven Black Sea ports alone. On 6 May, the WFP reported that nearly 25 million tonnes of grain were stuck in Ukraine.

The strategic significance of Snake Island for maritime food exports across the Black Sea

Control over Snake Island is a key factor in the ability to block or open up agricultural export routes from Ukraine and its neighbours on the Danube that use the Black Sea. There are very few islands in the Black Sea, and Snake Island, sitting 200 kilometres south of Odesa, Ukraine's biggest port city, offers those who control the island the ability to control maritime traffic in the vicinity.

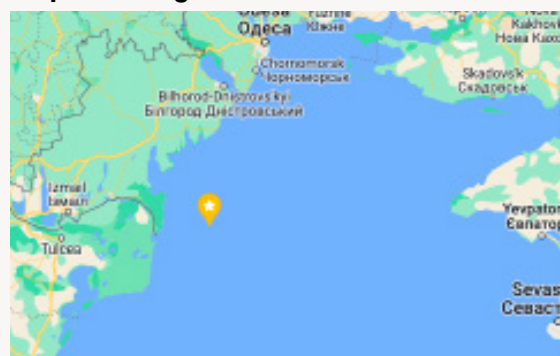
The limestone formation sits just 35 km from the coast, and just east of the mouth of the Danube River. Until 1948, it was part of Romania, but the island was ceded to Ukraine under Soviet administration – a move which Romania always contested. The dispute continued after the fall of the Soviet Union leading Ukraine to found the tiny settlement of Bile on the previously officially uninhabited island to support its territorial claims. The dispute was settled by the International Court of Justice in 2009, giving Romania almost 80% of the disputed (and mineral rich) continental shelf but leaving the island itself to Ukraine.

On the very first day of the Russian invasion on February 24 2022, Russian troops captured Snake Island after a short bombardment by the Russian guided missile cruiser Moskva and another, smaller vessel the patrol boat Vasily Bykov. Bile was almost completely destroyed and the thirteen Ukrainian border guards garrisoning the island became prisoners of war.

Since then, Ukraine has launched a series of operations to try to prevent Russia from reinforcing its garrison or further fortifying its defences on Snake Island.

Control of Snake Island remains a key factor in Russia's continued ability to blockade Ukraine's coast and to threaten merchant shipping from other countries using the Black Sea.

Map showing the location of Snake Island



The impact of military actions on transport infrastructure, shipping and rail safety

In addition to the blockade of Ukrainian ports, Russian forces have also attacked merchant ships in the Black Sea and this has made any commercial transportation more dangerous and costly, including food transportation. While it remains contested whether these attacks were deliberate or inadvertent, the attacks as such are undisputed. For example, on 25 February, Russian forces attacked the Moldovan-flagged chemical tanker MV Millennial Spirit and left it drifting and on fire.

Military actions also severely affect the food export infrastructure of Ukrainian ports. As the Sea of Azov is very shallow, there are few places where large ships can dock. Military actions at the port of Berdyansk have affected the capacity for grain exports. For example, a grain carrier was damaged on March 24, following a Ukrainian Tochka ballistic missile hit on the Russian Alligator-class landing ship Saratov in Berdyansk. This hit caused the explosion of the munition on board of the Russian ship which damaged two landing ships, the Caesar Kunikov and Novochoerkassk along with the grain carrier. The wreck of the Saratov will have to be cleared before the port will be fully usable again. It is likely that the port's fuelling facilities were also damaged in the wider blaze. As the storage tanks were next to where the Saratov was berthed, the munition explosion caused a larger fire. Satellite images showed that the fuel storage tanks were still burning several days later highlighting the wider impact that one military attack on a military object can cause to food export infrastructure.

According to Russian statements, the Russian military claimed on 22 June to have used "high-precision weapons" to attack a fuel storage facilities as well as destroying "up to 50 multiple launch rocket systems, including foreign-made ones" near Mykolaiv. However, other available evidence suggests that the true target was not military equipment but the massive Nika-Terra grain terminal in the port of Mykolaiv. This is based on video evidence and declassified satellite images showing massive damage to the grain storage and handling facilities at the terminal as the result of a 4 June Russian missile attack.⁶ It therefore remains difficult to determine with certainty to what extent the damage to the transport infrastructure that affects food exports is collateral or targeted damage.

Ukraine's defensive military actions to protect its ports from Russian military invasion also contributed to the export crisis. The Ukrainian military has laid hundreds of Soviet-era YaM and YarM naval mines in the sea near Odesa. Kyiv has also blamed Moscow for laying some or all of the YaM and YarM mines. According to declassified US Intelligence information, the Russian navy was indeed given orders to mine the ports of Odesa and Ochakiv in order to further blockade exports of Ukrainian grain.⁷ Mines placed around ports not only prevent civilian use of the port but has caused drifted mines.

Drifting mines have been banned since the 1907 Hague Convention after they caused many civilian casualties in the Russo-Japanese War of 1904-1905. While there is no evidence that either Russia or Ukraine anchored drifting devices, it is clear that many of the mines have broken free from their moorings, presumably in stormy weather, and have now drifted. These floating mines pose a risk for merchant ships across the Black Sea further hindering exports.

Vessels hit by drifting mines

Locations where sea mines were reported between the 03-28 March 2022. Source: Armed Conflict and Location Event Dataset (ACLED).



The mines were originally anchored at the Ukrainian coast. Some have since drifted long distances posing dangers for any vessels in the Black Sea

Alternatives to sea transport are extremely difficult – and more expensive thus risking additional rises in food prices. As the Baltic ports in Germany, Poland, Lithuania and Latvia have lost trade from Russia and Belarus, they currently have spare capacity to export Ukrainian grain. However, the Ukrainian government estimates that only 20% of the exports it normally sends through the country's ports could be transported by rail to alternative Baltic ports.

The cost of road transport, which has risen fivefold in the past year, compounds the export difficulties further. UN officials have suggested a possible humanitarian corridor through Belarus, to take the grain to the Baltic ports. This would facilitate transport as there is a uniform track gauge between Ukraine and Belarus. However, Russia's UN veto, as well as its control over the regime in Minsk, means that is extremely unlikely to be a viable solution either.

Furthermore, Russian air and cruise missile attacks on Ukrainian rail infrastructure and associated power supplies as well as the laying of landmines near railway installations will further undermine confidence in the viability of rail movement.

Locations of damage to railway infrastructure 04 Feb-24 May 2022

Source: Armed Conflict and Location Event Dataset ([ACLED](#)).



Diversion of food stocks

There are numerous claims – and some evidence – that Russia has also been diverting Ukrainian grain from captured areas and either selling it to countries that oppose the sanctions regime against Moscow or possibly donating it to friendly states in return for political support.

On 21 March 2022, the exiled Mayor of the Russian-occupied Ukrainian port of Berdyansk, on the Sea of Azov, claimed that residents had reported that five grain carriers that had been docked there since the Russian invasion, had been towed away by Russian tugs over the previous three days.

According to CNN, in May, the Russian bulk grain carrier *Matros Pozynich* was identified in the Syrian port of Latakia on 05 May 2022.⁸ According to Ukrainian officials, the *Matros Pozynich* had loaded a cargo of stolen Ukrainian grain in Russian-occupied Crimea before attempting to deliver it to a buyer in Alexandria, Egypt. The Egyptian authorities refused to allow the vessel to enter following an appeal by the Ukrainian government and so the *Matros Pozynich* was forced to divert to Russia-aligned Syria instead. Data from the ship's Automatic Identification Systems (AIS) transponders show that the *Matros Pozynich* also made two trips from the Black Sea to Syrian waters in March and April although there are extensive gaps in her AIS record during these voyages, indicating periods when her transponder was turned off.

Impacts of the disrupted food production and exports on the global food system

The disruption to food exports and food production in Ukraine has a wide impact on the global food system. Disruption in the food export routines has led to significant price rises. In countries dependent on food imports, this increased household food prices with devastating impacts for the poorest in society. The effects of the Ukraine conflict are particularly severe when local food production and alternative imports are also affected by weather, the lack of fertiliser and other policies.

Ethiopia, Kenya and Somalia

Ethiopia, Kenya and Somalia are currently experiencing a drought with more than 23 million people facing high levels of food insecurity and water shortages. An Oxfam and Save the Children report noted that this has been exacerbated by the ongoing conflict in Ukraine, with East Africa importing 90% of wheat from Ukraine and Russia. This led to a 20% increase in commodities whilst prices for cooking oil (mainly imported from Ukraine) doubled. In Somalia, prices for some key commodities have also doubled over the past two months where the price of a 20 litre can of cooking oil rose from 25 to 50 USD. A spokesperson at the World Food Programme (WFP) concluded “The medium-term effects of the Ukraine crisis are just an extra reason for very serious concern.”

Food export bans

Food export bans aggravate the impact of the conflict in Ukraine. The food security crisis of 2007 and 2008 provides important lessons of how food insecurity affects global hunger. The 2007-08 food crisis was caused by globally rising food prices of over 200% between 2004 and 2008. Many governments struggled to adapt to and mitigate the impacts for their populations. Export controls imposed by prominent food exporting countries compounded the situation. Currently available information suggests that a repeat of export controls are again unfolding. This is likely to aggravate the direct impact of the Ukrainian conflict on food security. When India banned wheat exports on 13 May 2022 global wheat prices rose almost 6% day-on-day.

Examples of food export bans and responses

- **Indonesia**

Indonesia blocked food oil exports on 28 April 2022. In a move clearly designed to illustrate Jakarta’s determination to enforce the ban, the Indonesian Navy said the same day that it had detained two tankers carrying palm oil heading to India and the United Arab Emirates for alleged violation of export controls.

- **India**

India is the world’s second largest wheat producer and the country’s initial offer to feed the world following the outbreak of war in Ukraine came to halt on 14 May. Food secretary Sudhanshu Pandey stated that all new shipments of wheat would be banned with immediate effect although exports would still be allowed to countries that require wheat for food security needs and based on the requests of their governments.

India's change in policy stemmed from high inflation driven by a heat wave that hit southeast Asia from March through to April. Temperatures reached 45 degrees centigrade in places and caused stunted wheat crops.

However, the Indian government's move to protect the domestic market remains unpopular with the farming community who instead of seeing a sharp profit from an export market saw a price drop. Prior to the export ban, 100 kg of wheat was expected to come in at 40.78 USD, but after the ban, the government-set minimum price for wheat was 25.97 USD, the amount at which it buys grain for its vast public distribution system. This impacted small scale farmers the most, with many now seeing wheat harvests at a loss after factoring in production costs.

- **Egypt**

Egypt is the largest net importer of wheat in the world importing 12 to 13 million tons every year. Egypt sources 80% of its wheat from Ukraine and Russia, and 73% of its sunflower oil from Ukraine. The conflict in Ukraine has put on pressure on the Egyptian government with memories of the last national food crisis in 2008 still fresh. While Egypt has stated that it has between six to nine months of food supplies including wheat in storage, the government stepped in last month to fix the price of the unleavened bread (which most Egyptians consume) when it rose by 50%. The government also banned the key export of foodstuffs including edible oil and devalued its currency by 15%.

Egypt's Gulf Arab allies have supported the Egyptian government with a 1.1 billion USD relief package launched in March. The Supply Minister Ali Muselhi said that Egypt was now looking at 22 sources for alternative wheat supplies, including India. India has offered some tonnage of wheat to be exported to Egypt. Despite the moves by the government to stabilise its food market, inflation continues to rise and reached 13.1% in April, up from 10.5% in March and the highest since 2019, aggravating the food cost crisis for households.

The impact of sanctions against Russia and Belarus

By June 2022, 44 countries had imposed over 400 sanctions against Russia and Belarus. At present, there is limited verifiable data to show the extent to which the current sanctions against Belarus and Russia have impacted the current global food crisis.

Russia has claimed that sanction fears have held back grain exports globally. However, Russia's own Grain Union has noted that total grain shipments were only down 14 percent this year and that exports doubled in May.⁹ Most shipments have been exported to Egypt, India, Iran and Turkey. The Kremlin has quoted President Putin as saying to Italian Prime Minister Mario Draghi that Moscow "is ready to make a significant contribution to overcoming the food crisis through the export of grain and fertilizer on the condition that politically motivated restrictions imposed by the West are lifted," US Secretary of State Antony Blinken has stated that food, fertilizer and seeds are exempt from US sanctions.

The EU has also built-in exemptions within its sanctions on Russian fertilizer export. Russia and Belarus have been important producers of fertiliser. Russia has produced nearly a tenth of global nitrogen fertilisers while Belarus produces around a third of the world's potash. However, even with the inbuilt exemptions, many private companies, shippers, bankers and insurers, have reduced the level of trade with Russia out of fear of breaking any of the complex sanction rules, including on banking. This has reduced exports of Russian fertilizers by 24 per cent this year.¹⁰

In addition, a Food and Agricultural Organization (FAO) report noted fears that sanctions on Russian imports may also affect food production within Russia in 2022 stating that “Economic sanctions imposed on the Russian Federation could disrupt its imports of agricultural inputs it is highly dependent on, especially pesticides and seeds”.¹¹

Increased conflict risks in countries depending on food imports

The 2007-2008 period saw an increase in political and economic instability and social unrest in both poor and richer nations that many observers linked to rising food prices.¹² Parts of Sub-Saharan and North Africa as well as the Middle East and Asia were severely affected, with food riots in Bangladesh, Bolivia, Burkina Faso, Cameroon, Côte d'Ivoire, Egypt, Mauritania, Mexico, Morocco, Pakistan, Senegal, South Africa, Sri Lanka, Tunisia, Uzbekistan, and Yemen. Such protests contributed to the so-called Arab Spring – which followed two years later and was also driven by popular disaffection at governments' inability to mitigate the effects of global issues, including food prices, on their populations.

- **Yemen**

Yemen has been sourcing 46% of its grains from Russia and Ukraine. Major commercial suppliers in Yemen are now warning of an imminent famine as a result of the rise in global wheat prices and decreasing stocks. The Famine Early Warning Systems Network has reported that the cost of the basic food basket in Yemen has risen by 85% compared to last year. According to the UN in April, 25.5 million out of the 30 million people lived already below the poverty line due to the ongoing conflict in the country. The conflict in Ukraine will cause further hardship to people in Yemen.

Outlook and forecast

- The impact of the loss of both Russian and Ukrainian wheat combined with climate change heat waves / droughts in Asia, Africa and Europe, will lead to high inflation levels and food prices hitting the largest rise in 40 years.
- This will continue into 2023, even if the war in Ukraine was to cease tomorrow.
- Wheat prices will remain high from the lack of competition in the grain market, while significant stocks of grain remain in Ukraine. They are set to increase higher, if Ukrainian farmers are not able to plant this year, especially winter wheat crops.

- 1 [Situation Ukraine Refugee Situation](#). Accessed 12 June 2022.
- 2 [IPES Food issues report on the global food price crises](#)
- 3 According to declassified UN military intelligence the Russian navy was ordered to mine the ports of Odesa and Ochakiv following mining of the Dnieper River, in order to further blockade exports of Ukrainian grain (<https://www.theguardian.com/world/2022/jun/23/russian-navy-ordered-to-lay-mines-at-ukraines-black-sea-ports-says-us> and <https://www.theguardian.com/global-development/2022/mar/18/un-warns-russian-blockade-of-ukraines-grain-exports-may-trigger-global-famine>) While Ukraine introduced mines to protect its ports from invasions.
- 4 [Major Manufacturers Close Ukraine Operations Amid Russia Invasion; Companies shut Ukraine plants in face of Russian invasion, putting supplies of goods from beer to cars to candy bars at risk](#)
- 5 [Group DF statement on the shelling of PrJSC "Azot"](#)
- 6 [Russian navy ordered to lay mines at Ukraine's Black Sea ports, says US.](#)
- 7 [Russian navy ordered to lay mines at Ukraine's Black Sea ports, says US.](#)
- 8 [Russian ships carrying stolen Ukrainian grain turned away from Mediterranean ports](#)
- 9 [Janis Kluge](#) via Twitter
- 10 [US Quietly Urges More Use of Russia Fertilizer to Ease Food Crisis. Bloomberg](#)
- 11 <https://www.fao.org/3/cb9013en/cb9013en.pdf>
- 12 [Explaining the African food riots of 2007–2008: An empirical analysis - ScienceDirect](#)

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