

To Plant or Not to Plant? For Ukrainian Farmers, It's Life or Death

Published 06/11/23 09:30 AM ET | Updated 06/11/23 01:20 PM ET
Anna Nagurney

Every decision a Ukrainian farmer makes right now is life or death. Not only do they need to be aware of the risks of living and operating in a war zone, but also the life-and-death challenges of being able to provide food to people in dire need. People may well die if the [food supplies continue to dwindle](#) as a consequence of the Russian invasion of Ukraine.

If farmers cannot plant, there will be no harvest. If there is no harvest, they can't make money, they can't live, and the people who need their harvest will suffer.

At the moment in Ukraine, it's the spring sowing season, the planting season for a number of important crops.

Already, the United Nations reports that 90% of the agricultural businesses in Ukraine have lost revenue, and 12% of them have stated that their lands are contaminated with Russian mines, putting farmers and their workers at risk.

In 2021, approximately [40 million acres](#) in Ukraine were planted with grain. That number dropped to 28.6 million acres last year. The forecast for this year is for only [25.2 million acres](#) to be planted, a decrease of almost half since Russia's invasion.

Imagine being a farmer and having to worry that you could be killed or maimed by a hidden explosive.

In addition to personal safety risks, economic challenges for farmers include:

- Dramatically increasing production costs
- Rising costs of fertilizer and energy that have prevented some farmers from acquiring what they need just to operate
- Scarcity of high-quality seeds

Transportation bottlenecks continue to hamper the distribution and delivery of grain despite the existence of the [Black Sea Grain Initiative](#).

Agriculture is Ukraine's Economic Lifeblood

The agriculture sector is the economic lifeblood of Ukraine. The agrifood sector's share of the Gross Domestic Product (GDP) of Ukraine, if we include both upstream (such as agricultural machinery) and downstream (that is, food processing industries), was about 20% before the unprovoked invasion of Ukraine.

In the 2018 to 2020 period, Ukraine accounted for 10% of the global wheat exports, 16% of the global maize/corn exports, and 50% of global sunflower exports. A sizable percentage of agricultural exports was transported by sea to the Middle East and the North African region, and also to Europe. Ukraine, understandably, has been called the breadbasket of the world, with even China being a market for its grain.

Historically, 40% of the wheat purchased by the World Food Program has come from Ukraine thanks to its super-fertile land that Ukrainians call "chornozem" or "black soil."

At the moment, planting is underway on the fields farmers can use. Spring crops are sunflowers and corn. The July-through-October period is critical for harvesting winter wheat, which is a major export.

How Bad Is It?

Because of the war, a decade of agricultural progress in Ukraine has been lost. Total grain and oilseed output for 2022 was only [53 million tons](#) — or 50 percent of the record 2021 harvest.

For a sense of what this means, if the war were to stop today, it would take an estimated 10 years to return Ukrainian agriculture to pre-war levels.

The total estimated agricultural war damages and losses have [exceeded \\$40 billion](#). There is damage to machinery, to stored products, to storage facilities, to land and to perennial crops and orchards.

Agricultural supply chains are complex and not limited simply to the growing fields. The damage to transportation and decreased shipping capacity have also affected trade and related costs. The CEO of a top Ukrainian shipping company called [Nibulon](#), stated that, based on data from 3,000 farmers, already 40% less wheat has been seeded this year, and he expects 50% less corn to be seeded. He once paid \$12 to ship a ton of grain from Odesa (one of the three ports that are part of the Black Sea Grain Initiative) and is now paying \$80 to \$100 per ton.

The BBC reported that, as of late May, there is a queue of about 100 ships in the entrance to the Black Sea waiting for processing. According to Nibulon, some ships have had to wait 80 days to get loaded with cargo.

What Has to Happen Now

If this continues, more Ukrainian farmers [will go bankrupt](#) within a year. In a very real sense, the destruction of Ukrainian farmlands and infrastructure is economic genocide.

The solutions to this global crisis are right before us. Russia needs to leave Ukraine and to return all the lands that it has illegally taken. Many of the lands that it has seized and occupied are where agriculture has thrived in Ukraine. Investment in Ukraine's security is vital. Recovery and reconstruction of Ukraine should begin even in wartime. All of this should happen, along with investment in restoring agricultural lands and the demining of them; subsidizing farmers financially; and investment in transportation corridors for agricultural products.

Ukraine's ports need to be opened to reduce any bottlenecks associated with the transport of agricultural products from Ukraine.

When all of this happens, and once agricultural flows from Ukraine can start to return to former levels, this will then help reduce prices in the marketplace, particularly in developing countries where there is significant poverty and food insecurity. That's what nations and policymakers can do.

But there is also something each of us can do. We can raise awareness of this issue and push for action to support Ukraine. We can reach out to legislators and others in our own government, as well as use our social media presence and write letters to the editor. We need to make sure that peace in Ukraine is and should be one of the world's highest priorities right now.

For the sake of the people of Ukraine and well beyond.

Anna Nagurney is the Eugene M. Isenberg chair in integrative studies at the University of Massachusetts Amherst. She holds the endowed chaired professorship in the Department of Operations and Information Management in the Isenberg School of Management at UMass Amherst. She is an affiliated faculty member of the Department of Civil and Environmental Engineering and the Department of Mechanical and Industrial Engineering. In 2022, she was appointed co-chair of the Board of Directors of the Kyiv School of Economics in Ukraine. She continues to serve on its Board of Directors and its International Academic Board.