

GLOBAL FOOD SECURITY: RISING PRICES AND THE DANGER OF FAMINE IN THE MIDDLE EAST AND NORTH AFRICA

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Problem statement and its relation to important scientific or practical tasks. Food security plays a key role in the socio-economic development of the state. The highest priority strategic objectives of food security are stable and hopeful provision of the country's population with safe and high-quality food. The most important strategic goals of food security are to maintain the adequacy of domestic production and imports of high quality food, stability of supply food products in the country, the affordability of food for citizens and the ability to maintain a rational structure of consumption.

Today, food security is closely linked to international trends in all areas of scientific support of agro-industrial production. In today's world, the leading organizations in the field of quality and safety of agricultural products, as well as animal and human health, are: the Organization for Agriculture and Food (FAO), the International Office of Epizootics (OIE) and the World Health Organization. WHO), which developed and implemented the strategy "One Health" (One Health), as well as the Global Health (Global health security agenda). Their main task is to preserve human health, including through animal health, ie the quality and safety of agricultural products, from producer to consumer on a "field to table" basis, which is a key component of food security and consumer protection (Consumer protection) in the modern world. For Ukraine, the problem of food security became especially acute in the twentieth century, during which the people of our country experienced several revolutions, wars, famine in the 30s and 40s, food queues in the 80s, radioactive contamination of large parts of the country due to Chernobyl accidents, lack of adequate nutrition in most of the population due to poverty in the 90s of last century. Today, it is also acute in connection with the war.

Even before the start of Russia's war against Ukraine, food prices had risen significantly. In January 2022, world prices for basic foodstuffs reached record levels. Military action on the territory of Ukraine will cause a significant increase in world food prices. Russia's aggression against Ukraine threatens food and humanitarian security in many countries around the world.

Ukraine is among the TOP-5 world food exporters, so in less than a month the whole world will feel the effects of the war in Ukraine¹. According to the US

Department of Agriculture, Ukraine accounts for 16% of world corn exports (with 30% of corn imports to China coming from Ukraine), 12% of wheat exports, 50% of sunflower oil exports (Fig. 1). Interruptions in supplies from the Black Sea region will affect the overall global availability of food.

Analysis of recent researches and publications, which have initiated problem solution, the author relies on. There is currently a considerable body of research on food security. At the same time, the current situation in Ukraine, namely Russia's military aggression, is rather difficult to predict. The global impact on food security can be extremely negative. These issues need to be studied in depth.

Identification of previously unresolved matters of the generic problem the article deals with. This publication outlines the possible consequences of restricting Ukrainian food exports due to the war in Ukraine. These consequences will be global.

Goal statement (task statement). The purpose of the publication is to outline the consequences of the war in Ukraine, namely global food change.

Presentation of research material with full justification of findings.

The globalization of economic relations leads to a constant increase in the degree of influence of economic factors the international food market in the course of events in the Ukrainian segment. Openness of the domestic market with on the one hand, and the emergence of additional opportunities for food exports at higher than in the middle countries prices, increase competition, increase food prices, reduce their quality. Analysis of the dynamics of world food prices provides grounds to argue that there is a steady trend towards their overall growth. Periods of declining food prices traditionally coincide with economic crises and slowing economic development.

In our opinion, the list of main factors that determine the overall increase in food prices include:

- growth of food consumption against the background of population growth and overall socio-economic progress;
- situational trends in the world economy;
- deteriorating climatic conditions and unfavorable forecasts for agricultural production.

According to FAO experts, the main trend is for an overall and sustainable increase in food prices goods are formed under the influence of increasing food consumption, which is due to growth population, the

¹ Dankevych V. Russian Invasion into Ukraine Threatens World Food Security. *Food Tank*. URL: <https://foodtank.com/news/2022/03/russian-invasion-into-ukraine-threatens-world-food-security/>

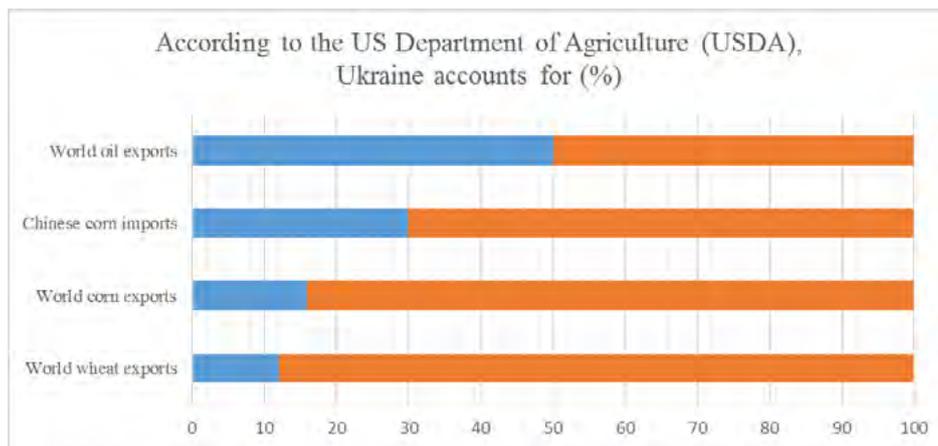


Fig. 1. The role of Ukraine in the world food market

development of the world economy (world GDP has doubled since 2000), as well as sustainable economic growth and living standards in Asian countries.

Due to the invasion of Russian troops into Ukraine, Russia may cause humanitarian food crises in some countries. That is why Russia's war against Ukraine is also a war against the countries of the Middle East and North Africa, which are the main importers of food from Ukraine.

According to the State Customs Service of Ukraine, in 2021 Ukraine exported agricultural food worth USD 27.9 billion. In 2021, the highest export volumes of different products were recorded in Ukraine – 20,071 thousand tons of wheat, 459 thousand tons of poultry, 76 thousand tons of frozen berries and other fruits, 38 thousand tons of pasta.

In 2021, Asia continued to strengthen its position as a major importer of domestic agricultural products, once again purchasing a record number of Ukrainian agricultural products. Last year, the value of domestic exports to the countries of this region increased to USD 13.7 billion. Supplies to Africa in 2021 also increased from USD 2.9 billion in 2020 to USD 3.7 billion (according to the State Customs Service of Ukraine)².

According to research by the Kyiv School of Economics, Egypt, Yemen, Indonesia, Bangladesh, Ethiopia, Lebanon, Libya, Pakistan, and Iraq are countries that are the most dependent on Ukrainian food imports.

Given the current situation, namely Russia's war against Ukraine, a deficit in production and exports is inevitable. The war is threatening the sowing campaign, which is expected to begin in the third decade of March (depending on weather conditions).

It is necessary to sow early spring crops, such as wheat, barley, oats, peas, canola, some vegetables very soon so as not to lose moisture in the soil. During this

period, it is also necessary to fertilize winter cereals and industrial crops, in particular wheat, rye and rape.

At the same time, there are already significant concerns about sufficient fuel, fertilizers, plant protection products and seeds. Not to mention the physical ability to start field work in a number of regions of Ukraine.

The critical situation may be with the sowing of corn for grain, soybeans and sunflowers (Ukraine is one of the leaders in world exports). The situation is more comforting only for wheat: more than 70% of it is winter wheat, and currently this crop only needs additional fertilization and protection.

In addition, the issue of providing agricultural machinery with fuel and lubricants is becoming very important.

Today, the whole country is united. Farmers and agricultural producers are actively helping the army and the population. At present, many agricultural workers are fighting side by side with the military, defending their homeland, and a significant number of territorial defenders are resisting the Russian invaders. Farmers are actively helping to seize enemy equipment and use it to protect their homeland.

The further situation with food security in Ukraine and the countries of the Middle East and North Africa, which are the main importers of food from Ukraine, depends significantly on the sowing campaign. Currently, the most difficult spring sowing in the history of independent Ukraine in the conditions of hostilities is beginning. Provision of resources in a significant part of farms is 30-50%. According to a survey of farmers conducted by Mind, the biggest problem is fuel. Next on the "problem rating" are fertilizers, seeds, plant protection products, spare parts for equipment³.

Dates. The war is threatening the sowing campaign, which is expected to begin in the third decade of March

² Dankevych V. Russian Invasion into Ukraine Threatens World Food Security. *Food Tank*. URL <https://foodtank.com/news/2022/03/russian-invasion-into-ukraine-threatens-world-food-security/>

³ Dankevych V. Sowing in the Context of Hostilities in Ukraine as a Challenge to Global Food Security. *Food Tank*. URL: <https://foodtank.com/news/2022/03/sowing-in-the-context-of-hostilities-in-ukraine-as-a-challenge-to-global-food-security/>

(depending on weather conditions). It is necessary in a short time, so as not to lose moisture, sow early spring crops, such as wheat, barley, oats, peas, canola, some vegetables. During this period it is also necessary to fertilize winter cereals and industrial crops, including wheat, rye and rapeseed.

Human resources. A significant number of workers involved in agricultural work have now joined the armed forces and territorial defense.

Provision of fuels and lubricants. The issue of providing agricultural machinery with fuel and lubricants is becoming very important. Today, Ukraine cannot buy fuel from aggressor countries. Therefore, it is urgent to look for alternative suppliers

Logistics and port control. Ports are extremely important to us. First, the Ukrainian economy is highly dependent on international trade. Second, more than 60% of Ukrainian exports go through seaports. In turn, the Ukrainian economy is very open and integrated into world trade.

Mineral fertilizers and plant protection products. Russia's invasion into Ukraine could lead to long-term disruptions in global supplies of potash and nitrogen fertilizers to crops.

Territories of hostilities. The main areas for growing food crops in Ukraine directly border Russia and Belarus, and there has been fighting in recent days due to the aggression of Russia and Belarus. Accordingly, the sowing campaign in these areas is complicated or impossible.

State support and coordination. The Ministry of Agrarian Policy has launched a platform to help sow 2022 to identify the needs of farmers for a successful start and to help close those needs. The Ministry of Agrarian Policy has taken on additional functions to coordinate the distribution of everything needed to ensure the 2022 sowing campaign⁴.

Ukraine will be able to feed itself. We have stocks for more than one year. We started a sowing campaign. According to Ukrinform, if the military situation does not worsen significantly, Ukraine will be able to harvest the main crops at 70% of the annual average. There is currently no shortage of basic food items⁵.

Also very important is the fact that the largest investors have not left the agricultural sector of Ukraine. According to Forbes, the shares of the largest Ukrainian agricultural holdings did not decline significantly despite the war. Thus, the capitalization of the largest agricultural companies as of March 28 was as follows:

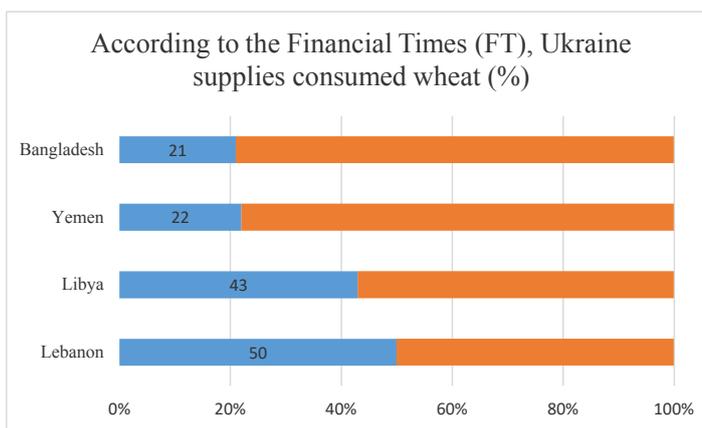


Fig. 2. Dependence of countries on Ukrainian wheat

Kernel (510 thousand hectares) \$ 623 million, MHP (370 thousand hectares) \$ 365 million, Astarta (220 thousand hectares) \$ 135 million. What will be important to them is the extent to which Ukrainian companies will be able to resume operations and exports in military conditions.

At the same time, the question arises whether Ukraine will be able to export products and provide food to more than 400 million people from around the world. According to the Ministry of Economy, due to the war waged by Russia in Ukraine, exports of Ukrainian goods in March fell by half, imports – more than three times. Russia is deliberately undermining our country's economy by blocking domestic exports. According to Ukrinform, the Russian Navy is currently blocking more than 90 civilian ships in the Black Sea region, designed to transport grain and other food. At the same time, about 30% of world wheat exports usually fall on the Black Sea region, as well as 20% of corn and 75% of sunflower oil. In addition, the occupiers are attacking agricultural infrastructure to prevent us from rebuilding our capabilities in the future.

Currently, Ukraine has three ways to export – the Danube ports, railways and highways. Danube ports account for about 30% of exports, rail – about 70%. Currently, up to 30,000 tons of domestic grain products are shipped by rail daily. The main problem of logistics on the railway is the lack of cars and locomotives. The press service of the Government of Ukraine notes that the European Commission intends to create special trade routes between Poland and Ukraine, which will facilitate the transportation of agricultural products⁶.

A much worse food situation is expected in the Middle East and North Africa, which are the main importers of food from Ukraine (Fig. 2). Rising world food prices as a result of the war in Ukraine could lead to famine and riots in poor countries. Food and energy are the two most important groups of goods in the consumer bas-

⁴ Dankevych V. Sowing in the Context of Hostilities in Ukraine as a Challenge to Global Food Security. *Food Tank*. URL: <https://foodtank.com/news/2022/03/sowing-in-the-context-of-hostilities-in-ukraine-as-a-challenge-to-global-food-security/>

⁵ Skydan O.V., Dankevych V. Ye., Fedoniuk T. P., Dankevych Ye.M., Yaremova M. I. European green deal: Experience of food safety for Ukraine. *International Journal of Advanced and Applied Sciences*, 9(2) 2022, Pages: 63-71.

⁶ Dankevych V. The Global Food Front: Rising Prices and the Dangers of Hunger in the Middle East and North Africa. *VOXUKRAINE*. URL: <https://voxukraine.org/globalnyj-prodovolchij-front-zrostannya-tsin-i-nebezpeka-golodu-v-krayinah-blyzko-goshodu-ta-pivnichnoyi-afryky>

kets of the poor around the world. There is a danger of a repeat of the food riots that took place in the previous period of soaring prices in the late 2000.

According to the FAO, world food and feed prices could rise by 8-20% as a result of Russia's war against Ukraine. According to Bloomberg, wheat futures will average \$ 11 or more per bushel by the end of the year, and corn futures will be about \$7.75 per bushel or higher. This is 30% more than at the end of 2021.

Countries that are well-off and have never had food problems will face higher prices. Since the beginning of the war, wheat, which was not cheap at \$ 300 a tonne, has risen in price on world markets by 50% to \$ 450 a tonne. And these are only the first results and the reaction of the market to the cessation of supplies from Ukraine. If the domestic agricultural sector loses a certain part of production when the harvest comes, then we will see even higher prices in the world. The consequences of the war in Ukraine will be felt by every consumer in many countries, as it will affect any things that are produced. World food prices rose 13% in March 2022. This is the biggest leap in 60 years. What has risen in price: vegetable oils – 23%; cereals – 17%; sugar – 7%; meat – 5%⁷.

Russia's hostilities on the territory of Ukraine will have an extremely negative impact on the functioning of food systems; In particular, the following consequences are expected:

- violation of integrated supply chains of agricultural and food products (from primary production to sales to consumers), as well as activities to create added value in

⁷ Dankevych V. The Global Food Front: Rising Prices and the Dangers of Hunger in the Middle East and North Africa. VOX-UKRAINE. URL: <https://voxukraine.org/globalnyj-prodovolchyj-front-zrostannya-tsin-i-nebezpeka-golodu-v-krayinah-blyzko-shodu-ta-pivnichnoyi-afryky>

the agro-industrial complex related to the production, processing, distribution, consumption and disposal of food;

- disruption of the sowing campaign, which is particularly threatening given the high world prices for gas and, consequently, mineral fertilizers. Active hostilities are currently taking place in those regions where most of the wheat is grown – Kharkiv, Odessa, Zaporizhia. Collectively, this will reduce grain yields, harvests and exports;
- complicated export of Ukrainian products to foreign markets due to the blockade of Ukrainian ports by Russia (60% of Ukraine's agricultural products are exported by sea), which will negatively affect primarily countries that depend on food imports.

Conclusions. Ukraine is quite integrated into the processes of world trade and economy, is a country with an open economy, which confirms the country's dependence on counterparty countries. Also, if we assess the potential of Ukraine, in the long run the country may become a center of European trade, which contributes to the resource potential, geographical location and development opportunities. However, the events of the last two months have made significant changes in the food security of both Ukraine and the world. According to the annual Global Hunger Index, before the war with Ukraine, 47 countries, mostly in Africa and Asia, suffered severely from malnutrition and hunger. In the absence of food supplies from Ukraine, this list could grow to 60 countries.

The consequences will pose serious threats to global food security: further increase in world food prices (according to the FAO forecast of 11.03.2022, due to the war in Ukraine, world prices for food and feed may increase by 20%); global inflation spike, which will primarily affect countries with underdeveloped economies in the Middle East and North Africa.

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