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THE FOOD PROBLEM IN TODAY'S CHALLENGING CONDITIONS

Throughout the history of mankind, the problem of stable food supply of the population has been one of the most important, since not only food security, but also the national security of the state depends on it.

There are four groups of factors that affect the global food problem:

– natural conditions and population placement (total area and structure of agricultural land, agricultural potential, climate, ratio between the number of the population and the mass of food, etc.);

- global transport and communication, which ensure a wide access of food products to the foreign market;

– the political situation in the world (positions of political forces, presence of interstate communities, associations, use of food supplies for political purposes);

- world economy and trade in their unity (food as a component of trade flows, the role of balance calculations, clearing).

Even before the start of the war in Ukraine, the approach of the world food crisis was already obvious. According to the FAO, world food prices in July 2021 were 13 % higher than the previous year. In 2021, wheat and corn price levels were 40–50 % higher than the average over the past decade. This means that the war in Ukraine was not the cause of significant problems in providing the world's population with food, it pushed and exposed the existing problems and contradictions. In a worst-case scenario, global food prices could jump another 8.5 % by 2027.

The world's grain comes mainly from six growing regions, notably Ukraine and Russia, which together produce about 28 % of the wheat and 15 % of the corn exported worldwide. About 5 % of the 400 million tons of grain traded worldwide may seem like a relatively small figure, but it could be enough to seriously disrupt the two-year commodity cycle. Even a relatively small deficit creates the need for new contracts and undermines confidence in the stability of the market, which may prompt some countries to increase their reserves.

According to expert estimates, the yield in Ukraine this season will decrease by 35–45 % due to the smaller sown area, less availability of resources and military risks during harvesting. Ukraine's future harvest and exports are likely to be the lowest in a decade.

According to a McKinsey study, Reflections on Global Food Security Challenges Against the Background of the War in Ukraine and the Early Impact of Climate Change, the war in Ukraine, climate change and the pandemic have created logistical constraints that could lead to grain shortages of up to 60 million tons by the end of 2024.

However, the food crisis for most countries today is related to the availability, not the availability of products, as the UN states. The largest projected deficit is the annual food consumption of 250 million people, equivalent to 3 % of the world's population. More than 1.4 billion people, or 18 % of the world's population, live in countries that are highly vulnerable to rising food prices and could be severely affected by price increases. The risks are highest for Bangladesh, Ethiopia, Somalia and Yemen, which depend on grain imports and have low purchasing power. If the global shortage continues and countries run out of supplies, that number could rise to around 1.9 billion people.

Three quarters of people facing hunger live in rural areas. The resources for the existence of most of them depend on agriculture. In Africa, a quarter of the population suffers from hunger – the majority of them live in villages.

Residents of China, the United States and countries of the European Union can be relatively calm about food security. However, more and more countries are trying to protect their domestic markets with trade restrictions. Since the beginning of the war, approximately 40 new export bans and export licensing requirements have been introduced.

As early as November 2021, the Chinese government released the "Food Conservation Action Plan", which formulated measures that applied to all stages of food production – from cultivation to final consumption of products. This was the response of one of the world's largest economies to the food crisis expected in 2022–2023, which, judging by the forecasts at the time, was supposed to cover a large part of the planet.

One of the key points of the plan is to reduce food loss at all stages – from the field or the sea to the fridge and the plate – both through the introduction of higher standards and through a culture of "smaller portions".

The topic of responsible food consumption, reducing food waste for the sake of economy in crisis conditions is not new at all. Even in the last 100 years, it has repeatedly become part of state policy. A striking example is the USA at the beginning of the 20th century. As a result of the First World War, America, like many other countries, suffered from food shortages. Flour, sugar, and other goods were rare on the tables. So, the challenge was, among other things, to make Americans throw away as little food as possible and to avoid food imports. Clean Plate Club was invented to promote the idea of "responsible consumption". It was promoted among schoolchildren, who had to take an oath that not a single crumb of food would remain on the plate.

"Clean plates" were reborn a second time already after the Second World War and the Great Depression, when in 1947 provisions on economical consumption of food were included in the Marshall Plan (Americans should eat less to save food for Europeans). Over time, the idea of "clean plates" began to die: the increase in the level of well-being led to the fact that the practice of "throw away the excess", "throw away what has spoiled, and not finish eating" became the norm. Moreover, "eating to the last crumb" has come to be cited as one of the causes of eating disorders, as well as obesity and overweight trends in the West.

But it seems that soon the idea of promoting economical consumption of products will have to be revived all over the world at the state level. The reason is the global food crisis, which was a consequence of the pandemic, the war in Ukraine, problems in the energy sector, the increase in the price of fertilizers and climate change.

According to estimates by the World Food Organization (FAO), up to a third of all food produced in the world is lost. If we are talking about fish, then here the losses are even greater – almost half of the entire catch "dissolves" on the way from the vessel to the table.

The goal of reducing these losses is even dedicated to a separate item in the list of UN Global Goals: by 2030, the world has committed to reducing food loss and food waste by at least half. The amount of losses is about 1 billion tons of food products worth about $1 trillion. 8–10 % of all greenhouse gases come from discarded food, and 250 billion cubic meters of water are spent on its production.

According to the calculations of international researchers, in Ukraine, one household accounts for about 76 kg of discarded food per year, together we throw out about 3.3 million tons. Based on data on food costs, it can be assumed that Ukrainian families throw away $10 billion worth of food every year. Of course, we cannot reduce 100 % of these losses at once, moreover, we cannot literally "convert" these savings into some number of fed children. However, reducing losses by at least half, as required by the UN Global Goals, is an additional 10,000 hryvnias per year for a family, that is, on average, at least plus one monthly grocery set.

At each stage – production, import, delivery, storage, sale at the bazaar or supermarket – and, ultimately, in the fridge and on the table – there is potential to reduce these costs. Catch less, store better, sell more efficiently, buy exactly as much as you are going to eat, or even buy portion-

packaged products at once. And don't throw away the leftovers – compost them or give them to volunteers who will find a way to do with them next. In this area, there is "homework" not only for citizens, but also for government and business. Of course, the state should not regulate the size of the portion or impose a penalty for throwing away a piece of cake. However, it may well contribute to the creation of conditions for better storage of products at the stage of harvesting or its logistics, improve the system of disposal of food products, etc.

In Ukraine, for example, there is a catastrophic lack of capacities for storing vegetables, "cold warehouses" with large refrigerators. There are also no sufficiently developed networks for collecting leftover food or distributing it by supermarkets and restaurants to socially vulnerable segments of the population, etc., which could be done by retailers and restaurateurs themselves. In addition, a big question mark is the reserves of the State Reserve, which theoretically should guarantee food security, but it is not known for certain whether they are capable of doing so, or whether part of the reserves should simply be thrown away a long time ago. Therefore, there is a need for a public audit of these reserves or even their transfer to the Ministry of Finance of Ukraine or the National Bank, which would effectively manage the country's food reserves in the same way as gold and currency reserves.

Therefore, the world food crisis, which has covered a large part of the planet, requires urgent actions to overcome it. As a result, soon the idea of promoting economical consumption of products will have to be revived all over the world at the state level.

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