

# Features of the Impact of Military Actions on Food Security

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## Abstract

The sowing campaign is taking place with great difficulty as a result of active military actions in the eastern and southern parts of the country, specializing in the cultivation of grain crops. Seaports are blocked, which creates new threats to global food security. The generalization of analytical data is aimed at characterizing the food security of Ukraine before and during military actions, followed by the designation of possible consequences, including on global food security. The generalizations made prove the need to consolidate the efforts of Ukraine, as one of the world's largest food producers, and international organizations in order to avoid the greatest catastrophe of mankind in its modern history, which will be caused by famine.

### Keywords:

*food security, military actions, famine, food availability, refugees, food.*

## 1. Introduction

An increasing part of the world's population can easily satisfy their information hunger through Internet access, using a personal computer or mobile phone. The volume of the information space is growing exponentially every year, there is a modification of labor activity through the possibility of remote work and social behavior due to the provision of benefits by new generations to communication in social networks with limited personal contact and within the family circle. Against the background of progress in overcoming informational hunger, another one, associated with the need for each person to consume food, is characterized in the current conditions by less positive parameters for pleasure. Information is an important component of personal space and a means of self-development of the individual, but without food in the proper quantity and quality of a person's

existence and his development, including the perception of information, is impossible. Food is one of the needs that are subject to priority satisfaction, which actualizes the problem of meeting food security for each person, regardless of age, article, place of residence, education or profession. Each person should receive the necessary amount of microelements in a timely manner, unable to make a conditional physiological reserve. A more difficult problem is obtaining food for children, the sick and older people, which requires more activity on the part of the working population. In modern conditions, not only physical access to food is relevant, but economic and social, and food security issues are exacerbated, both due to an increase in the world's population and deterioration in conditions for growing agricultural products. We are talking about both natural conditions, which is a consequence of the negative human impact on the natural environment and climate change, and the formation of obstacles to the production and supply of food due to conflicts, in particular military ones. On February 24, 2022, the military confrontation between Ukraine and the Russian Federation escalated, which is a continuation of the events that began in 2014 and were accompanied by the annexation of Crimea and certain territories of the Lugansk and Donetsk regions. As a result of the significant population of both countries, including the Russian Federation 140 million people and Ukraine 42 million, and also because both countries have an agricultural orientation of their national economies, which makes it possible to provide food not only for their own needs, but for the most part to export, a new phase of military confrontation has created threats to food security both in each country and at the global

level, in particular, in relation to low-income countries. Today, it is important to determine the essence of such threats for Ukraine and other countries in order to develop adequate protective measures in the field of ensuring food security.

## 2. Methodology

To determine the impact of military actions on food security and global food security, the following methods were applied: induction and deduction, comparison and systematization - when characterizing the food security of Ukraine; synthesis and analysis - to assess the consequences of the continuation of military actions on ensuring the food security of Ukraine and global food security; morphological analysis - to clarify the main parameters of the modern understanding of the concept of "food security"; graphic - for visual presentation of theoretical and methodological material; abstract-logical - for theoretical generalizations and conclusions of the study.

## 3. Research Results and Discussions

Considering the essence of modern problems of ensuring food security, it is advisable to start with tracking the modification of its parameters. Despite the fact that the need for food is basic for humans, and therefore has always accompanied humanity, the scientific knowledge of food security began late compared to military security, although mortality from starvation was an order of magnitude higher than losses on the battlefield [1-7].

A new stage in the formation of principles for ensuring food security began during and after the Second World War. Its difference from the previous one was in solving the problems of providing food not only within a single country, but also at the international level. The Food and Agriculture Organization of the United Nations (FAO) played a leading role, operating under the slogan "helping build a world without hunger". One of the first modern definitions of food security was formed as a result of the work of the World Food Conference in Rome, which was attended by representatives of 134 countries [8-15].

The consideration of social accessibility is caused by the problem of the existence of barriers in access

to food associated with the specifics of the social environment of a certain individual. In the past few years, there has been a certain clarification when the issue of water supply and sanitation is also being considered, which is due to the aggravation of the access of part of the world's population to fresh water and those diseases that arise and become widespread due to the insufficient level of personal hygiene. In addition to these basic parameters, modern publications also consider others, some of which deserve attention because of the ability to further track the changes that have occurred due to military actions in Ukraine.

An additional generalization of information on the structure of food expenditures made it possible to reveal the fact of the mass replacement of high-calorie foods, in particular meat and fish, by potatoes and bread products in order to survive in conditions of low incomes and rising prices. That is, in Ukraine there are a number of opposites that negatively affect food security: with an excess of grain production, in fact, there is a low level of food availability with a restriction on the amount of consumption of high-calorie foods.

Since we have selected materials regarding the level of the Global Index in 2012-2021, certain methodological features of its calculation require explanation. So until 2017, three components were taken into account: "affordability", "availability" and "quality and safety", each of which involved the calculation of a certain number of indicators. Due to the increasing influence on the process of ensuring food security of such a factor as "climate change", a fourth one was added to these three components - "natural resources & resilience". Taking into account these changes, the level of the Global Index and its components is shown in Fig. 1.

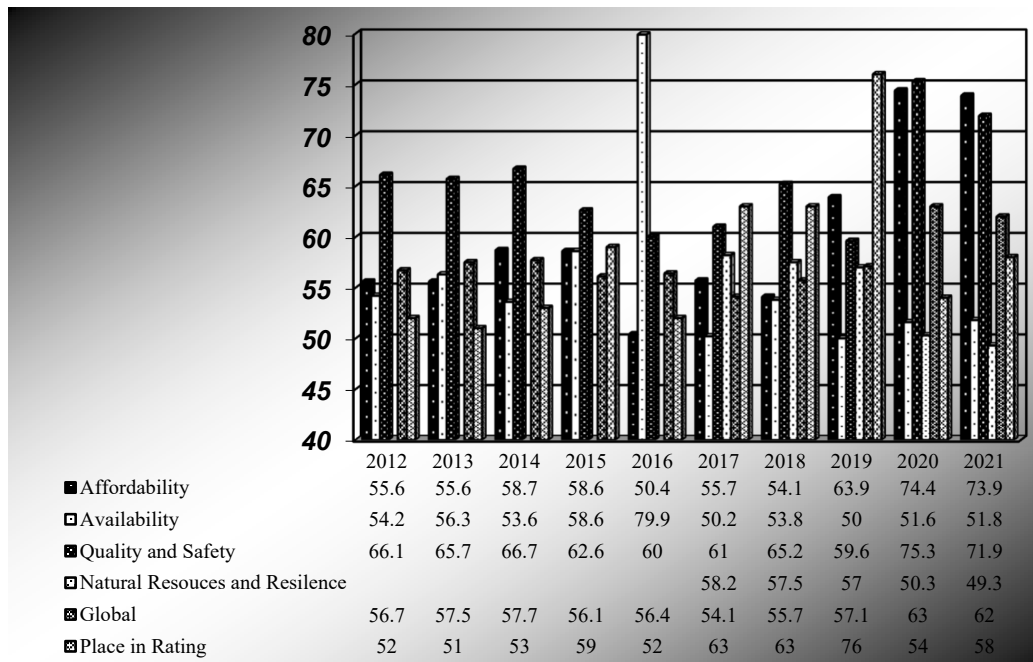


Fig. 1. Global Food Security Index of Ukraine and its components.

As a basis for the perception of the level of the Global Index, its possible maximum value of 100 points should be taken. Accordingly, the level within 2012-2021. has not changed significantly. Specification of the main components made it possible to identify problem areas in 2021, which were: regarding affordability - "food safety net programmers"; availability - "political and social barriers to access" and "food security and access policy commitments"; quality and safety - "nutritional standards"; natural resources & resilience - "water". For the purpose of a concise presentation of the material, we miss the moments of considering the digital value of each indicator, but summarizing, we can state about:

- a rather low place for Ukraine in the overall ranking, including in 2021 - 58;
- significant problems with the physical and economic availability of food for a significant number of the population, despite the growing potential of agricultural production, in particular cereals. The low level of income does not allow the population to fully meet the needs for high-calorie foods;

- the imperfection of the control mechanisms of both state, local authorities, and internal corporate control over the quality and safety of food products, which negatively affects the food safety of each consumer.
- The generated generalizations regarding the food security of Ukraine in accordance with the Methodology and the level of the Global Index made it possible to identify problem areas before the intensification of military actions, which took place on February 24, 2022. Therefore, in the future, we summarized analytical data on the impact of military operations on food security within March- May 2022. Military actions carried out by the Russian Federation on the territory of Ukraine are accompanied by the following changes in agricultural production:
- violation of the integrity of the chains of production and supply of agricultural products;
  - exclusion of the sowing campaign through military actions in the Kharkiv, Odessa, Zaporozhye regions, which grow the largest number of grain crops;
  - the complication of the export of Ukrainian products to foreign markets due to the blocking of

seaports, the share of which in the movement of food outside the country reached 60%;

- a critical number of internally displaced persons and refugees from among the inhabitants of rural areas (19% of all workers were employed in agriculture), which exacerbates the problem of labor shortages for the operation of agricultural enterprises in the eastern and southern regions of Ukraine and provokes an increase in unemployment in the western regions.

It can be argued that today Ukraine is trying to stabilize the situation on two fronts at the same time: by protecting its own territories, which is facilitated by the consolidation of international military support, and by doing the maximum possible for sowing crops and territories where active military actions are not taking place. That is, there is a consolidated solution to the problem of military and food security. It is also important that, as proved above, Ukraine is not directly threatened by famine, because domestic demand for grain is significantly less than production volumes. At the same time, the decrease in exports creates real prerequisites for the deterioration of global food security.

Ukraine is traditionally positioned as one of the leaders in food production in the world. In 2021, the results of activities in agriculture made it possible to meet their own needs, as well as avoid hunger for at least 400 million people in other countries, which became possible thanks to the export of 16.6 million tons of wheat, 4.2 million tons of barley, 18, 4 thousand tons of rye, 23.1 million tons of corn, and 126.9 tons of flour. This has proved particularly relevant against the backdrop of the collapse of global supply chains for goods due to the COVID-19 pandemic.

For Ukraine, such an expansion of sales markets made it possible to export agricultural products to 180 countries of the world for 27.8 billion dollars. USA, whose share in the total export structure increased to a record 41%, when in 2020 it was only 25%. It is also necessary to take into account the fact that the largest share (56%) in the structure of agricultural exports was occupied by crop products, which accounted for 15.6 billion US dollars. For comparison, import volumes were much lower and totaled only 7.7 billion US dollars, or 11% in the import structure. Imports come in the majority of finished products, in the structure of which the

largest share is occupied by alcoholic beverages and tobacco products.

Military actions in a certain way change the threats to food security both in Ukraine and on a global scale. Accordingly, we specify these changes in these two planes.

For Ukraine, the following course of events is possible:

- according to pessimistic forecasts, 70% of the area will be sown. In the case of demining the liberated territories of the Chernihiv and Sumy regions, the area under crops may increase up to 80%;

- in view of the fact that no more than 30% of grain crops are required for own needs, the available volumes of agricultural production will meet domestic needs even in the face of a decrease in sown areas;

- the need to form economic support for the continuation of military actions, and in the future, the restoration of infrastructure will stimulate more active exports of grain crops, which will lead to higher prices in the domestic market;

- an increase in domestic food prices will also be affected by an increase in the cost of fuel due to the destruction of strategically important components of the energy complex, in particular, oil refineries, an increase in the cost of mineral fertilizers and plant protection products, as well as the devaluation of the national currency due to the suspension of a significant part of the industrial production.

FAO is taking real steps towards food security and global food security. As an example, for the first of these levels, we can point to the developed Rapid Response Plan for life and livelihoods activities to support the most vulnerable small and medium-sized farmers in Ukraine during March-December 2022. FAO assumes that The problem described above regarding the insufficient nutritional value and diversity of the diet of Ukrainians can be solved during military actions through support for farms, because they grow up to 85% of vegetables, 83% of fruits and berries for the domestic market, collect 99% of honey, produce 70% of milk and 45% of eggs, as well as 33% meat. The developed Rapid Response Plan supports 100,000 households and small farmers during the spring campaign and 200,000 in the fall to meet seasonal food production deadlines. FAO's efforts are also aimed at unblocking Ukrainian seaports for possible export of agricultural products,

and therefore avoiding famine in a number of countries in Africa and the Middle East.

Summarizing, it can be argued that in the current conditions of the active phase of military actions in Ukraine, food security issues should be provided based on the need to apply an integrated approach, that is, by combining the efforts of the country and the international community. This concerns both the food security of Ukraine and global food security. Yes, Ukraine is trying to make the most of its agricultural potential, not only to meet its own needs, but above all to avoid starvation in other countries. The international community, in particular FAO, provides support to Ukrainian producers in the production of high-calorie food products and facilitates the establishment of logistics for the export of Ukrainian food to Africa and the Middle East.

#### 4. Conclusions

The military operations on the territory of Ukraine were preceded by several difficult years, accompanied by the negative impact of the COVID-19 pandemic. At the end of 2021, most experts predicted a gradual recovery of the global economy, which could gradually improve the situation in the field of global food security. Despite this, on February 24, 2022, another aggravation of the military confrontation between the Russian Federation and Ukraine began, which in the current conditions is not limited to individual regions, but has acquired the scale of a large-scale war. To the 5.23 million refugees who were forced to cross the country's border, another 7 million internally displaced persons were added, which in general provoked a migration crisis, social and economic destabilization with aggravation of problems in the field of food security. The results of determining and tracking the dynamics of the main indicators of the Methodology and the level of the Global Food Security Index showed the fact that even before February 24, 2022, the population of Ukraine had significant problems with economic access to a balanced diet with the necessary amount of high-calorie foods, in particular meat, fish and milk. The military actions exacerbated these problems due to the decrease in agricultural production and the loss of income of the population as a result of the cessation of the activities of almost 50% of business structures.

The magnitude of the possible consequences of the military actions in Ukraine, which are already characterized as the possible greatest catastrophe in the history of mankind, requires the unification of military, political, and economic efforts. Ukraine, as one of the leaders in food production, is taking all possible steps to reduce possible losses from a decrease in the area for growing grain crops. International organizations should help support Ukrainian producers to better meet the needs of the population in high-calorie food and restore logistics routes for the export of agricultural products to Asia and the Middle East. The successful implementation of these tasks will avoid global famine in the recent history of mankind.

Summarizing, it can be argued that the continuation of military actions brings increased threats to the food security of Ukraine and other countries, and without consolidated international assistance, which should extend both to the military sphere and to food security, humanity will not be able to avoid the greatest catastrophe due to famine.

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