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Food security in the countries of Central and Eastern Europe: state and strategic directions of provision

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► **Abstract.** The relevance of the study lies in the fact that in modern conditions, the food security of the countries of Central and Eastern Europe is under threat due to the influence of negative factors associated with both global destructive events and the vulnerabilities of food systems at the EU level. The purpose of the article is to study the state and problems of food security in the countries of Central and Eastern Europe, and to identify strategic directions for ensuring food security in the studied countries. Research methods became general scientific and special methods of cognition: comparative analysis, statistical, induction and deduction, abstract-logical, generalization, and abstraction. The peculiarities of the formation of food security in the countries of Central and Eastern Europe are shown. The level of prices for food products was studied, and it was proved that the cost of food in the countries of Central and Eastern Europe is lower compared to other EU member states. It is claimed that the economic availability of food is a problem for the population of the analysed group of countries due to the low level of income and the growing share of food expenses in the structure of household expenses. The main measures adopted at the level of the European Commission, aimed at ensuring food security by transitioning to a sustainable food system based on reducing the energy dependence of the agricultural sector and increasing its innovativeness and environmental friendliness, are considered. The practical significance of the study is that the formulated recommendations will help reduce food insecurity in the countries of Central and Eastern Europe by ensuring the stable functioning of agri-foodmarkets, implementing strategic directions for supporting the agricultural sector and reducing import dependence on production resources, supporting Ukraine as a key global food exporter, forming a sustainable food system in EU countries

► **Keywords:** food; food security; agri-foodmarkets; economic availability of food; population income; food price index

► Introduction

Modern global political and economic challenges create new threats to food security in all countries of the world. According to the definition of the Food and Agriculture Organization of the United Nations, food insecurity occurs when the population does not have sufficient physical, social, or economic access to a sufficient amount of safe and nutritious food that meets nutritional needs and promotes an active and healthy lifestyle (FAO, 2009). Awareness of the need to guarantee food security around the world contributed to the adoption in 2015 by the United Nations of the Sustainable Development

Goals for the period up to 2030. In particular, goal No. 2 "Overcoming hunger" emphasizes the need to "end hunger, achieve food security, improve nutrition and promote sustainable agriculture" (Sustainable Development Goals, 2015).

The countries of Central and Eastern Europe, like other EU member states, generally have a single system of legislative regulation of food quality and safety, as well as the supply of food products, which meets the goals of the EU Common Agricultural Policy to provide EU consumers with high-quality, nutritious, safe and affordable food products (Keane,

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& O'Connor, 2016). The physical availability of food is not a threat to the food security of EU countries. However, the countries of Central and Eastern Europe are more vulnerable to threats to food security due to the lower level of income of the population compared to the EU average (Dudek, 2014).

The majority of scientific research in the field of food security of the EU countries, in particular the countries of Central and Eastern Europe, is based on the analysis of the peculiarities of their agri-food sectors (Burkitbayeva *et al.*, 2021), assessment of food security of households with an emphasis on household income and economic availability of food (Dudek, 2014), implementation of the potential of small farms in the formation of food security (Van Herck & Swinnen, 2015; Hernández *et al.*, 2021). During 2020–2022, there is a significant increase in threats to food security in the countries of Central and Eastern Europe. Thus, global and European food markets have been negatively affected by the global COVID-19 pandemic (Béné *et al.*, 2021). In 2022, due to the Russian invasion of Ukraine, there was a disruption of supply chains in the EU agri-food markets, and experts recorded a significant increase in food prices due to the increase in energy prices.

Scientists have published some scientific works in the field of food security, both at the global level and at the level of groups of individual countries. Certain aspects of the development of the agricultural sector and the sphere of food security in the countries of Central and Eastern Europe are highlighted in the publications of S. Burkitbayeva *et al.* (2021). Scientists studied the dynamics of the formation of the potential of the agricultural sector and its role in guaranteeing the food security of the states in retrospect and analysed the factors and causes of crisis phenomena in agriculture, which caused the deterioration of the food supply of the population.

At the beginning of 2020, the pandemic of the coronavirus disease COVID-19 began in the world. One of the negative socio-economic consequences of this pandemic was the deterioration of the level of food security in most countries of the world, especially those with a low and medium level of economic development. The destructive impact of the pandemic was manifested in the fact that part of the population lost their jobs and source of income due to quarantine restrictions. The governments of the states directed funds to support the population during the conditions of the pandemic, which smoothed out the negative effect on the food supply. However, some studies confirm the deterioration of food security at the global level (Béné *et al.*, 2021).

An important factor in the emergence of threats to world food security is the war in Ukraine. The Russian invasion of Ukraine and its impact on global food security is explored in the article by M. Muhammedov *et al.* (2023). A thorough study was carried out in the work of authors N. Kryvenko (2022).

and showed the impact of the war in Ukraine on the food security of Eastern European countries.

The study of food security and the impact of the Common Agricultural Policy of the EU on the minimization of threats to food security both in Europe and in the world was conducted by the authors J.J.L. Candel *et al.* (2014). Scientists M.B. Morales *et al.* (2022) suggested directions for softening the environmental obligations of the EU's Common Agricultural Policy to compensate for the shortage of grain imports and strengthen food security in the context of the Russian invasion of Ukraine.

A general review of the literature on the researched problem showed that most of the works are devoted to general aspects of food security of the member states of the European Union, analysis of the influence of individual macro-indicators or global challenges on the state of food security, the transformation of the foundations of the Common Agricultural Policy of the EU. At the same time, scientists focus their attention either on the European Union as a whole or on the threats to the food security of individual states, leaving out of consideration complex studies of the geo-economic group of countries of Central and Eastern Europe, which form the core of the agricultural potential of the EU. This issue is especially relevant against the background of Ukraine's European integration priorities and strategic challenges caused by the post-pandemic recovery of the EU and the military conflict in Ukraine.

Therefore, taking into account the emergence of new global threats, there is a need for an in-depth study of the food security of the countries of Central-Eastern Europe in the conditions of modern geopolitical and geo-economic challenges.

The scientific value of the research lies in deepening the theoretical and methodological basis of food security strategy in the countries of Central and Eastern Europe.

The purpose of the article is to study the current trends and problems of food security in the countries of Central and Eastern Europe, as well as to justify the strategic directions of ensuring food security in the studied countries based on the food initiatives and programs in the field of food security adopted by the European Union.

The objectives of the research are as follows:

- ▶ to analyse food prices in the countries of Central and Eastern Europe as the main factor of threats to food security;
- ▶ to reveal the global factors of food security and their impact on the state of food supply in the countries of Central and Eastern Europe;
- ▶ to determine strategic directions for improving food security in the EU countries in the context of the Common Agricultural Policy and strengthening regional support.

▶ Materials and methods

The research methods were general scientific and special methods of cognition, in particular:

► comparative analysis (study of the main macro-indicators of socio-economic development of the countries of Central and Eastern Europe, indicators of food security, identification of differences in the level of food insecurity of the countries according to the considered indicators);

► statistical (study of the state and trends of food security in the countries of Central and Eastern Europe based on statistical data);

► inductions and deductions (justification of threats to food security in the countries of Central and Eastern Europe in modern crisis conditions);

► abstract (systematization of factors causing food insecurity in the analysed group of countries and formulation of conclusions);

► abstracting (research of strategic directions for ensuring food security in EU countries in conditions of global threats).

The study was conducted based on statistical data from Eurostat (2022), which made it possible to formulate conclusions regarding food insecurity in the countries of Central and Eastern Europe. To identify the deviation of food prices in the countries of Central and Eastern Europe from prices in the EU, the Eurostat methodology for calculating price level indices was used (price level indices, PLIs), which reflect a comparison of price levels

in countries with the average price level in the EU. To determine the rate of growth of food prices in the analysed countries, the Harmonized Index of Consumer Prices (HICP), is calculated by Eurostat for EU countries.

The article uses scientific publications of the world and European scientists on the topic of research, as well as normative legal acts of EU supranational regulatory bodies (European Commission, European Parliament, Council of the EU), which approved the initiated initiatives, support programs, strategies in the field of food safety in the EU.

► Results and Discussion

In the countries of Central and Eastern Europe, the role of agriculture in ensuring food security and availability of food is particularly significant, in particular, in conditions of growing demand for food. The real GDP per capita of the countries of Central and Eastern Europe is lower compared to the more developed countries of Western Europe and the EU average. Annual average wages in certain countries of Central and Eastern Europe were also significantly lower, compared to the average wage in the EU, which in 2021 amounted to 14,225 euros per year (Eurostat, 2022) (Table 1).

Table 1. The main macro-indicators of the socio-economic development of the countries of Central and Eastern Europe in 2021

Country	Real GDP per capita, euros	Average annual salary, net, euros	Global Food Security Index (ranking position in brackets)
Czech Republic	18020	7461	77.7 (16)
Hungary	13690	5037	71.4 (34)
Poland	13760	5504	75.5 (21)
Slovakia	15920	5921	71.1 (36)
Estonia	16490	8477	is not calculated
Latvia	12970	6113	is not calculated
Lithuania	14820	6517	is not calculated
Slovenia	21310	8337	is not calculated
Bulgaria	6950	3636	73.0 (29)
Romania	9550	4300	68.8 (45)

Source: compiled by the authors given the Eurostat (2022) and The Economist Newspaper (2022)

Given the data, a pronounced negative impact on the purchasing power of the population and sensitivity to rising prices for basic necessities, primarily food products, is shown. The share of expenditure on food products in EU countries was on average about 17% of household incomes in 2021 (Eurostat, 2022). Thus, in 2021, food prices in Central and Eastern Europe were lower than the average level of food prices in the EU. In particular, prices in Romania were 31% lower than the EU average, in Bulgaria – by 22%, and in Poland – by 29% (Table 2). A study of the price level of basic food products, in particular, bread, cereals, meat,

fish, and dairy products, showed that prices in the countries of Central and Eastern Europe were lower compared to other EU countries. The share of household expenses in the EU countries for bread and cereals was 17 %, for meat – 23%, for fish – 5%, and for dairy products – 16% of the total sum of food expenses. Among the considered countries, the lowest level of prices for dairy products (milk, cheese, and eggs) is observed in Poland. The lowest prices for bread and cereals were in Romania, for fish in Bulgaria, and for meat and dairy products in Poland. The level of price deviation between the considered food groups is quite significant.

Table 2. Indices of food price levels in the countries of Central and Eastern Europe in 2021 compared to the EU average (EU=100 %)

Country	Price level index, %							
	in general for food products	bread and cereals	meat	fish	dairy products	oils and fats	fruits, vegetables, and potatoes	other products
Czech Republic	88.5	84.5	81.8	98.9	97.4	103.5	85.5	99.0
Hungary	84.6	79.7	69.6	85.1	94.1	123.9	90.3	100.0
Poland	70.7	70.3	61.2	83.5	74.4	87.1	82.6	78.3
Slovakia	93.6	91.3	80.2	100.4	102.5	121.5	96.3	107.0
Estonia	96.6	98.4	87.4	93.4	100.9	115.8	97.8	108.8
Latvia	94.5	92.1	76.8	87.8	113.4	129.5	89.8	119.0
Lithuania	85.9	88.4	71.4	81.7	99.0	116.1	82.0	104.8
Slovenia	100	108.6	101.5	93.8	107.3	111.4	86.7	107.8
Bulgaria	77.4	66.4	63.5	69.4	110.7	131.5	70.8	90.3
Romania	68.2	59.4	61.7	76.0	97.8	109.4	58.6	80.0

Source: compiled by the authors given the data of Eurostat (Eurostat, 2022)

As for food product groups such as oil and fats, fruit, vegetables and potatoes, and other food products, the share of household expenditure in the EU was respectively 3%, 22%, and 13% in the structure of household expenditure on food. Among the considered countries, the highest prices for oil and fats compared to the EU were observed in Latvia, Bulgaria, and Hungary. The price level for fruits, vegetables, and potatoes was lower in all countries, in particular, Romania and Bulgaria have the lowest price level for these food products. Poland and Romania have the lowest price level for other food products. The deviation of prices for fruits, vegetables, and potatoes in EU countries is the largest among the considered food groups.

Consumers in Central and Eastern European countries have felt the brunt of the recent sharp rise in food prices in the European Union. According to Eurostat, food inflation in the EU in October 2022 was 17.3%, compared to October 2021 (Eurostat, 2022).

According to operational Eurostat data on the harmonized index of consumer prices, which is calculated for EU countries, in October 2022, food prices in Lithuania increased by 32% year-on-year, in Bulgaria – by 26.4%, in Latvia – by 29.6%, in Hungary – by 43%, in Estonia, Romania, and Slovakia – by more than 21% (Eurostat, 2022). The average level of food price growth in the EU countries in October 2022 was 17.3% (for comparison, the food price index in the EU was 4.8% in January 2022) (Table 3).

Table 3. Price indices and the share of expenditure on food products in the countries of Central and Eastern Europe (October 2022)

Country	Harmonized index of consumer prices, % until October 2021.	Harmonized index of consumer prices for food products, % until October 2021.	The share of household expenditure on food, % until April 2021.
Czech Republic	15.5	25.7	18.6
Hungary	21.9	43	19.3
Poland	16.4	21	16.7
Slovakia	14.5	26.1	21
Estonia	22.5	27.9	19.2
Latvia	21.7	29.6	23.4
Lithuania	22.1	32.6	19.2
Slovenia	10.3	17.3	15.8
Bulgaria	14.8	26.4	20.6
Romania	13.5	21.4	28.3
EU-27	11.5	17.3	15.9

Source: compiled by the authors given the Eurostat data (Eurostat, 2022)

The analysis of the factors that led to the deterioration of the economic availability of food for the population requires special attention. Firstly, the war in Ukraine has global negative consequences for global food security and trade in agricultural products. The uncertainty caused by hostilities disrupts the stable functioning of agri-food markets and threatens food supplies, affecting food prices and the basic inputs needed to produce food.

Food security of EU countries in the context of the physical availability of food is not a significant problem today. The countries of the EU, and especially of the Central-Eastern region, are quite self-sufficient in terms of key agricultural products. The EU is an exporter of wheat and barley and is also able to cover domestic consumption of staple food crops such as maize or sugar. It also has food independence in products of animal origin, including dairy products and meat, excluding seafood. At the same time, the EU is a net importer of certain agri-food products, such as feed protein, sunflower oil, or seafood. However, the invasion of the Russian Federation in Ukraine and the global increase in raw material prices lead to higher prices on agri-food markets and reveal the vulnerabilities of the food system: dependence on imports of energy, fertilizers, and animal feed. This increases the costs of producers and affects the prices of food products, reducing the purchasing power of consumers (Food security implications..., 2022; The Global Food..., 2022).

According to the report of the European Commission, the total volume of trade in EU agri-food products in 2021 reached a record 328.1 billion euros, which is 7% more than in 2020. The trade balance was positive and amounted to 67.9 billion euros, which is 8% more than in 2020 (Monitoring EU agri-food..., 2021). Trade in high-value-added food products increased, while trade in goods produced by farmers and agribusinesses, such as pork, dairy products, and wheat, declined in monetary terms.

In 2021, Ukraine exported agri-food products to the EU worth almost 7 billion euros, which made it the fourth largest agri-food trading partner of the EU (Monitoring EU agri-food..., 2021). The share of Ukraine in EU imports of cereals was 36%, and oils and fats – were 16%.

The invasion of the Russian Federation into Ukraine caused a sharp rise in food prices and created the risk of food shortages. The increase in food prices is especially noticeable in EU countries, where the share of food costs makes up a significant part of household expenses. Most of these countries belong to the analysed group of Central-Eastern European countries. In addition, some of them depend on imported food products.

At the same time, sanctions against the energy sector of the Russian Federation led to an increase in energy prices, which increased the cost of food production in EU countries. Rising food prices combined with rising energy prices have worsened inflationary expectations in Central and Eastern European countries, which were high even before

the hostilities in Ukraine, and caused by the consequences of the global COVID-19 pandemic.

The increase in food costs against the background of high inflation will lead to a deterioration in the standard of living of the population and an increase in inequality in society.

To counter threats to food security, the EU has developed a plan for its provision and started its implementation (Communication from the Commission..., 2021). The priority directions for ensuring food security are:

- ▶ support for Ukrainian producers, providing preferential conditions to exporters when supplying agricultural products to the EU, which will help Ukraine maintain economic activity and produce agricultural products (financial assistance should compensate for the costs of seeds, fuel and lubricants, fertilizers, and plant protection products);
- ▶ connecting Ukraine to the European electricity grid, as well as reconstruction of civil infrastructure;
- ▶ the provision by EU farming organizations of targeted aid for the recovery and development of Ukrainian farmers affected by the war.

International cooperation in the field of implementation of the World Food Program is aimed at supporting the multilateral food system and agri-food markets. In response to the growing risks and threats to food security, a food and agriculture sustainability mechanism was proposed (Food and Agriculture Resilience Mechanism), which provides:

- ▶ reducing tension in the markets of agricultural products, guaranteeing full transparency of commodity flows and stocks, countering unjustified trade barriers;
- ▶ supporting the agricultural potential of Ukraine, providing access to agricultural products at reasonable prices in the neediest countries (Food security: implementation..., 2022).

In addition to it, the European Commission developed and implemented in March 2022 the European Food Security Crisis Preparedness and Response Mechanism (European Food Security Crisis preparedness and response Mechanism), aimed at improving the coordination of efforts of European and national administrations, as well as relevant non-EU countries and private stakeholders to ensure food security in crises. The mechanism will contribute to an in-depth analysis of the risks and vulnerabilities of the food supply chain in the EU, based on which recommendations and appropriate mitigation measures will be provided (Communication from the Commission..., 2022).

In the conditions of rising food prices, social policy measures are important both to protect the most vulnerable segments of the population (families with children, the elderly, and the poor) from food insecurity and to ensure the economic availability of food for them. These measures should be aimed at eliminating the causes of poverty and social isolation. In addition, the EU program “European guarantee for children” (European Child Guarantee) contains guidelines for member states

to guarantee access to sufficient and healthy food for children in need, including at least one free meal during each school day (Communication from the Commission..., 2022). Fund for European aid to the most disadvantaged (Fund for European Aid that the Most Deprived) supports EU member states in providing food and/or material aid to the most deprived persons, which provides food aid to more than 15 million people who have experienced food deprivation of various kinds (Communication from the Commission..., 2022).

To minimize the rise in food prices, member states can introduce reduced VAT rates and thus encourage businesses to lower prices for consumers. In particular, in December 2021, the Council of the EU agreed on a reform of VAT rates at the EU level, which allows member states to reduce rates to 0% on certain goods, including basic foodstuffs (New rules on VAT..., 2021). In addition, it is possible to implement one-time food assistance programs for households.

The common agricultural policy of the EU envisages effective measures to ensure food security, including a system of price security and the possibility of taking exceptional measures aimed at stabilizing agri-food markets in crisis conditions. At the same time, to eliminate the consequences of the crisis in the economy and food security of the EU member states, in March 2022 the European Commission adopted the Temporary Anti-Crisis Program Crisis Framework). This document allows providing financial support to farmers affected by the crisis and rising gas and electricity costs. As a result, producers of fodder and fertilizers, as well as energy-intensive enterprises, in particular, in the processing industry, can receive support (State aid: Commission..., 2022).

In general, the basis of food security in the EU is the stability of the food supply. Currently, in crisis conditions, the dependence of the EU food system on imported resources, such as fuel, fertilizers, fodder, and some types of raw materials, is obvious. Therefore, in 2022, the "From farm to table" strategy was adopted (Farm to Fork Strategy), which should contribute to the formation of a fair, healthy, and ecologically clean food system (Farm to Fork Strategy..., 2020). The main goal of the strategy is the reorientation of EU agriculture and food systems to the concept of sustainable development, which involves reducing the use of resources (plant protection products, fertilizers), transitioning to organic farming and ecologically clean food production while maintaining the productivity of the agricultural sector, ensuring food security following the Green Agreements (Green Deal) and reforms of the EU Common Agrarian Policy regarding the strategic development of rural areas (A European Green Deal, 2022).

According to one of the work programs "Horizon. Europe" for 2023-2024, funding is provided for the development of the circular economy and bioeconomy sectors (European Commission Decision..., 2022). In addition, the partnership "Circular

Bio-based Europe" (2022) contributes to increasing the sustainable use of biomass, recovery of valuable nutrients, and production of alternatives based on biological products.

However, during the pandemic, mechanisms for ensuring close coordination between the European External Action Service, the European Commission, aid agencies of member states, and European financial institutions remain an urgent problem in the field of food security. Special attention should be paid to the most vulnerable sections of the population and temporarily displaced persons, in particular in the countries of Central and Eastern Europe, which have been affected by the increase in food prices due to high purchase prices of energy carriers and continue to suffer from the consequences of the COVID-19 pandemic.

At the level of EU member states, it is necessary to provide financial support to small and medium-sized farms to increase their resistance to threats and risks caused by market instability; use funds for the development of rural areas; support the creation of short supply chains to minimize the rise in retail food prices. Plans and programs should be developed to facilitate farmers' access to loans for the implementation of sustainable production methods and technologies, including the production and use of renewable energy.

The more developed countries of Western Europe are already reducing energy consumption in agriculture and food production through energy efficiency measures. More efficient use of nitrogen, valorization of biomass, and reduction of food waste are necessary for the future. Scientific research and innovation should be aimed at further improving the efficiency of fertilizer application on farms, in particular, through the introduction of precision farming methods. In addition, research funding for sustainable food production systems should be focused on mixed farming, agroecology, and organics.

It should be noted that even today, scientists focus their attention on the study of modern challenges to global food security, in particular, the consequences of the COVID-19 pandemic (Béné *et al.*, 2021) and the Russian invasion of Ukraine (Mottaleb *et al.*, 2022; Lin *et al.*, 2023). At the same time, the issue of food supply in the countries of Central and Eastern Europe remains mostly out of the authors' attention. Thus, the work of H. Dudek *et al.* (2021) is devoted to the study of the economic and socio-demographic factors of food security in certain countries of Central and Eastern Europe in the context of achieving the Sustainable Development Goals. Scientist H. Dudek (2014) systematically analysed the impact of food costs on the food security of EU households. In continuation of these studies, N. Sotvoldiev and B. Mullabayev (2021) emphasize that in the system of food security mechanisms of states in the conditions of globalization, the price level and price parity are decisive. At the same time, priority in state policy should be given to stabilization measures to support consumer

demand, and not to obtain excess profits at the expense of export-import activities.

Scientists F. Galli *et al.* (2020) substantiated the directions of food policy development in the EU countries based on the formation of sustainable food systems as the basis of the Common Agricultural Policy of the EU, ensuring food security and social justice in society, as well as the preservation of natural resources.

In general, the countries of Central and Eastern Europe are vulnerable to threats to food security because small farms, which are the basis of food security in the region, have difficulties with integration into the Common Agricultural Policy of the EU. The integration of small farms into regional food systems in EU countries is an important factor in ensuring regional food security. They need support measures adapted to the specifics of their economic conditions, which is emphasized in the work of I. Toma *et al.* (2021), M. Rivera *et al.* (2020), and A.P. Hernández *et al.* (2021).

The development of food quality assurance systems in Eastern Europe remains a separate area of scientists' research. Thus, the basis of food safety in the food safety system is the certification of goods at all levels of the value creation system. At the same time, the primary link of certification should be agricultural production, which forms the basis for the health of the nation (Gawron & Theuvsen, 2009). Modern research by M. Gurinovic *et al.* (2020) showed that nowadays management decisions in the field of population nutrition should be based on food product databases, which enable the dynamic assessment and plan rations at the country level. In addition, in most countries of Eastern Europe, during the pandemic period, the so-called non-traditional methods of food self-sufficiency of the population, which are associated with changes in the philosophy of lifestyles and nutrition, became widespread (Jehlička *et al.*, 2020).

A comparison of the obtained results with the already existing works of scientists showed that the conducted research, in addition to the existing scientific development, takes into account critically important factors of food security in the countries of Central and Eastern Europe. It is these countries that are in the greatest food danger due to the deterioration of the economic availability of food products, connected with the higher rates of growth of their price indices. Therefore, the population of these countries is more vulnerable to rising food prices due to lower household incomes. In addition, the authors deepened the scientific basis for the study of threats to the stability of the EU agri-food markets due to the disruption of supply links, as well as the increase in food prices as a result of energy sanctions against the Russian Federation due to the invasion of Ukraine, initiated by European and American colleagues (Kryvenko, 2022). At the same time, it should also be emphasized that the scientific community is fully aware of the long-term consequences of the military conflict on the territory of Ukraine. Scientists T. Ben Hassen and H. El Bilali (2022) noted

that as a result of military operations, not only logistical chains are disrupted, but also the threat of a decrease in the volume of food supplies in the future due to the loss of human and agricultural potential of Ukraine, mined land massifs, as well as the deterioration of the quality of exported products due to soil contamination with heavy metals and chemical compounds of military origin.

The proposed measures will contribute to the strategic development of the agricultural sector of the EU and the formation of sustainable food systems in the conditions of global threats and challenges to the food security of the countries of Central and Eastern Europe.

► Conclusions

In the countries of Central and Eastern Europe, the role of the agrarian sector in guaranteeing food security and availability of food, in particular in conditions of growing demand for food products, is significant. Food insecurity is mainly caused by rising food prices. Even though the price levels of basic food products in the countries of Central and Eastern Europe were lower compared to other EU countries, the increase in food prices during the crisis led to the deterioration of the food supply of the population due to the lower level of their incomes and a high share of food costs in the structure of household expenses.

Among the main factors that led to the deterioration of the economic availability of food for the population of the EU countries in general, and the countries of Central and Eastern Europe in particular, the war in Ukraine should be mentioned: the Russian invasion disrupted the stable functioning of agri-food markets and endangered the supply of food, led to an increase in prices on the basic resources necessary for food production, and therefore on food products for the final consumer.

To counter threats to food security in the EU, it is necessary, firstly, to implement a set of actions to support Ukraine as a key player in global agricultural markets, as well as to create a sustainable food system that can withstand challenges and risks in agricultural production and the food sector. Several initiatives have already been adopted at the level of the European Commission in 2022 to achieve the set goals. However, ensuring food security through the formation of a sustainable food system will require the implementation of strategic measures provided for by the Common Agricultural Policy of the EU.

Guaranteeing food security in the countries of Central and Eastern Europe needs more attention given the lower level of income of the population. It is necessary to implement financial support measures for commodity producers to compensate for the increase in resource prices and to develop and implement social support programs for the population. The transition to the concept of sustainable development will contribute to the reduction of import dependence on the resources of the agricultural sector and food production.

Further scientific research should be devoted to the development of a methodological toolkit for evaluating the effectiveness of implemented measures in the area of ensuring food security in the countries of Central and Eastern Europe.

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► Conflict of Interest

None.

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Продовольча безпека в країнах Центрально-Східної Європи: стан і стратегічні напрями забезпечення

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► **Анотація.** Актуальність дослідження полягає у тому, що в сучасних умовах продовольча безпека країн Центрально-Східної Європи знаходиться під загрозою через вплив негативних чинників, пов'язаних як із глобальними деструктивними подіями, так і з вразливістю продовольчих систем на рівні ЄС. Метою статті є дослідження стану та проблем продовольчої безпеки у країнах Центрально-Східної Європи, та виявлення стратегічних напрямів забезпечення продовольчої безпеки у досліджуваних країнах. Методами дослідження стали загальнонаукові та спеціальні методи пізнання, зокрема: порівняльного аналізу, статистичний, індукції та дедукції, абстрактно-логічний, узагальнення й абстрагування. Показано особливості формування продовольчої безпеки у країнах Центрально-Східної Європи. Досліджено рівень цін на продукти харчування та доведено, що вартість продовольства у країнах Центрально-Східної Європи є нижчою, порівняно з іншими країнами-членами ЄС. Стверджено, що економічна доступність продуктів харчування є проблемою для населення аналізованої групи країн через низький рівень доходів та зростання частки витрат на продовольство у структурі витрат домогосподарств. Розглянуто основні заходи, прийняті на рівні Європейської Комісії, спрямовані на забезпечення продовольчої безпеки шляхом переходу на стійку продовольчу систему на основі зменшення енергозалежності аграрного сектора та підвищення його інноваційності й екологічності. Практичне значення дослідження полягає у тому, що сформульовані рекомендації сприятимуть зниженню продовольчої небезпеки країн Центрально-Східної Європи за рахунок забезпечення стабільного функціонування агропродовольчих ринків, впровадження стратегічних напрямів підтримки аграрного сектора та зменшення імпортозалежності від виробничих ресурсів, підтримки України як ключового світового експортера продовольства, формування стійкої продовольчої системи у країнах ЄС

► **Ключові слова:** продовольство; продовольча безпека; агропродовольчі ринки; економічна доступність продовольства; доходи населення; індекс продовольчих цін