FOOD’S SECURITY PECULIARITIES OF THE UKRAINIAN REGIONS

**Summary.** The article considers the basic concepts of regions’ food security. The main indicators and indicators are systematized, on the basis of which it is expedient to assess the state of food security of individual regions and Ukraine as a whole. The most general criteria of region’s food security and the main factors that determine the degree of region’s food security in modern conditions, which can be long-term and short-term in nature; absolute and relative indicators used to assess the level of regional food security. The analysis of the state region’s food security, according to the established criteria, which can be carried out in these four areas by detailing and calculating indicators in the dynamics over many years, characterizing the current state and trends in this state. There are a number of positive and negative characteristics of region’s food security, namely, positive: the formation of market infrastructure (system of wholesale food markets and marketing information); income growth; increase of self-sufficiency of the population in foodstuff owing to expansion of the sizes of farms of the population and country sites. And negative characteristics, in particular: reduction of purchasing power of the population; imperfect state regulation of foreign food trade; there are no conditions for the stable functioning of the food market; conditions have not been created for stable growth
of production volumes of the main types of agricultural products. Two main areas of food security are described. Problems in the field of food security are revealed, which are closely related to the two main reasons that are emerging in the agricultural sector. The main conditions for ensuring region’s food security are substantiated: economic affordability of food; rational combination of food of own production and imported within the single economic space of the country; inadmissibility of interregional barriers to trade.

**Key words:** regions’ food security, food security, food market, criteria, factors, indicators.

**Problem Formulation.** Among the global problems that directly affect the fate of mankind is food. It is determined by the Earth’s ability to feed current and future generations of the planet. To some extent, this is due to the fact that nutrition is a physiological need of man. For Ukraine, food security is not only a condition for preserving the sovereignty and independence of the state, but also a factor in supporting the national and regional food markets, providing a sufficient level of balanced nutrition and effective development of foreign trade food and raw materials, strengthening the export orientation of the agro-industrial complex [4, p. 146].

In the context of the regional food markets’ formation, food security in the region is of particular importance, especially given the strengthening of economic independence of the regions. Food security of the region depends, firstly, on the ability to provide food for the population of the region in sufficient quantity, quality and range, and secondly, on the ability of different groups to purchase the necessary (rational) amount of high-quality food [9, 10]. The task of regional authorities is to ensure equal conditions for the functioning of the food market, in particular, to create real, not declarative opportunities to sell their products to all producers, including small ones, to combat the monopolization of the food market by resellers.
Ensuring food security in the region is a problem that is becoming increasingly important every year. Disparities in agricultural production, low profitability, concentration of production in households, lack of full and accessible infrastructure of the agricultural market, critically low level of technical support of agriculture, inconsistency of levels of production and consumption of food in the region and lack of state methodology and approved indicators that characterize the level of food problems in the region make this study extremely relevant.

Analysis of recent research and publications. The works of such scientists as O. Batygina [1], P. Borshchevsky [2], O. Berezin [3], I. Bublyk [4], P. Buryak [8], L. Gasukha [5], E. Grigoriev [6], A. Drabovsky [8], V. Zhushman [1], N. Zachasova [7], O. Kopylyuk [8], V. Korchun [9], O. Kondra [10], V. Kornienko [1], O. Muzychka [8], M. Meleshko [12], M. Odincov [13], K. Postoenko [14], O. Cherevko [15], I. Shevchuk [16], N. Shadura-Nykyporec [17], O. Yakovenko [15] and others.

Main goal. Disclose food’s security peculiarities of the Ukrainian regions.

Presenting main material. The concept of “food security” was introduced into international, scientific and political circulation in 1974, after the grain crisis of 1972-1973, by the UN General Assembly in the documents of the “Universal Declaration on the Elimination of Hunger and Malnutrition” and the resolution “International Commitments on Food Security in the world” [8, p. 60].

Food security should be considered both at the level of the country and each region, due to the diversity of natural and climatic conditions, socio-economic condition of individual territories, the demographic situation. Food security of the region is one of the most important tasks of improving the quality of sustainable national development in the near future. Regional food supply should be understood as the ability and readiness of the region to meet the needs of the population in food in terms of volume and calories that meet the necessary standards, while making full
use of the opportunities of regional production potential. Thus, there is a problem of food security research in the regional context of Ukraine.

In the most common interpretation, food security is resistant to the negative internal and external influences of providing all segments of the population with food in the required quantity, range and quality [4].

Food security is defined as the protection of human vital interests, which is expressed in the state’s guarantee of unimpeded economic access to food to maintain its normal activities. Food security is closely linked to internal factors (agricultural development, food security of the country) and external factors (global food problem, foreign economic policy, etc.) [7].

Due to its natural-climatic, economic-geographical, traditional preconditions, each territory has a certain potential for growing certain food crops, ensuring efficient production of certain types of food. Therefore, on the basis of determining the effective specialization of a certain territory in the production of food and ensuring proper interregional exchange, it is possible to achieve food security of the population of all regions.

Berezin O.V. emphasizes that food security should be considered within each region due to the regional characteristics of the territories, as each region of the country differs from another, its inherent natural resources, material wealth, social living conditions, economic and environmental situation [3, p. 107]. Meleshko M.I. focuses on the social basis for the consideration of this issue at the regional level, which is to meet physiological needs (including nutritional needs) for each individual in their places of residence [12, p. 61]. Motivating the need to study food security at the regional level due to the existence of peculiarities of the socio-economic situation of individual territories and the different demographic situation of the regions [16].

The approach of Odincov M.M., Odincov O.M., Shor O.M. we consider it reasonable to interpret the need for food security research in the region, due to the
fact that not all regions of the country are able to provide their own population with basic agricultural products and food, because they differ in economic affordability, structural and territorial differences in specialization [13, p. 23]. Therefore, due to the existence of regional differences in the country, it is important to study the state of food security in relation to each individual territory, which is recognized as an independent part of the country and has a complex of natural and other resources.

Ukrainian scientist Kopylyuk O.I. believes that the region’s food security depends on how much it can provide itself with the necessary food in case of cessation of food supplies from abroad, and that food self-sufficiency - a guarantee of adequate nutrition of the region [8, p. 30].

Shadura – Nikiporets N.T. under the food security of the region means the ability and ability of the region to meet the needs of the population in food volume, structure, quality and calories that meet rational standards, based on the fullest use of regional production capacity and interregional relations in accordance with the territorial division of labor [17]. The author focused on the use of regional production potential and the system of interregional relations, as the regions are interconnected food systems that operate through production and exchange in order to form a supply of food in all areas.

Gasuha L.O. considers that the food security of the region should be understood as the state of protection of the population of the region from food threats and uninterrupted access to the required amount of food of appropriate quality [5, p.93]. The author focuses on the social aspect, which provides protection of the population from threats in the food sector and takes into account such characteristics of food security as the physical availability of quality products, but in defining, there are no regional signs of such a state.
From the considered proposals to determine the food security of the region, it is clear that the main meaning of this concept is to provide the population with the necessary amount of quality food, mainly due to regional production capacity.

At the regional level, the requirement of food independence may not be feasible for many regions. Moreover, the imperative to achieve self-sufficiency in food (in order to ensure security) for the regional level, in contrast to the national, is losing its urgency.

First of all, the manifestation of external threats caused by other entities of the same level (other regions) or the socio-economic situation in the country as a whole is less likely than the manifestation of threats to national security by other states (struggle for markets, economic blockade, etc.) or world markets. Second of all, the cycles of regional food reproduction, having the global properties of integrated systems, are included as subsystems in the socio-economic complex of the country, eventually balancing at the national level. Interdistrict economic and social ties play a significant role in the formation of resources that ensure the process of reproduction in the region. The exchange of labor products, territorial redistribution of material and financial resources, inter-district migration, information flows - all this determines the open nature of the region’s economy as a necessary condition for the efficiency of its economy based on the territorial division of labor.

The state of food security of the country and regions is assessed with the help of indicators. Food security indicators are calculated values - that assess the level of food security in relation to the value of the indicator. Food security indicators are real officially approved threshold values - that characterize the availability, security, quality, availability, quantity of food. That is, food security indicators are quantitative and qualitative characteristics of the state, dynamics and prospects of physical and economic availability of food for all social and demographic groups, the level and structure of their consumption, food quality and safety, sustainability
and independence of the domestic food market, level of development agricultural sector and related sectors of the economy, as well as the efficiency of natural resource potential [1, p. 25].

Criteria of food security are the limit values of indicators, which is the limit beyond which the food situation in the country (region) is considered dangerous [14].

In Ukraine, the state of food security of a country or region is assessed using indicators. Indicators are calculated by the main groups of food products - bread and bakery products; potato; vegetables, melons; fruits, berries and grapes; sugar; oil; meat and meat products; milk and dairy products; fish and fish products; eggs. Such indicators include: daily energy value of the human diet; providing the human diet with the main types of products; adequacy of grain stocks in state resources; economic availability of products; differentiation of the cost of food by social groups; provision of the domestic market with certain products; food independence for a particular product [11].

The most general criteria for food security in the region, according to Ukrainian scientists [15, p.69], may be:

1) compliance of the level and structure of final consumption of food with rational physiological norms of healthy nutrition. This criterion characterizes the economic and physical availability of food to the population of the region;
2) the presence of production potential of the agro-industrial complex, sufficient for the production of basic (vital) food products in volume and range. This criterion characterizes the indefinite ability of the region's agro-industrial complex to maintain food security and guarantee protection against external threats to food security. The availability and condition of natural resources for agricultural purposes, which is a necessary condition for sustainable reproduction in the agro-industrial complex, should also be reflected in the composition of this criterion;
3) compliance of the volume and structure of food exports and imports to a safe level for the region, which is determined by the possibilities of economically feasible production of basic (vital) food products in the region. This criterion directly establishes a safe ratio of intra-regional production and interregional trade;
4) compliance of food quality and safety with the requirements of sanitary and hygienic ecological and epidemiological standards of healthy nutrition. This criterion characterizes the requirement to comply with food quality to ensure food security.

The above criteria should be reflected in a number of indicators that quantify the state of food security in accordance with these criteria. For each of the main criteria, it is possible to determine a number of indicators, one of which is the most important for the characterization of food security by this criterion. Thus, to characterize the safe level of imports, the main indicator is the coefficient of self-sufficiency, calculated on a cost or energy basis. Such indicators can be calculated directly or be complex indicators consisting of several components.

Factors that determine the degree of food security of the region in modern conditions can be long-term and short-term. Long-term factors include: - groups living below the poverty line and not having enough income to purchase a minimum set of food; - the population of territories whose food supply is not provided by market mechanisms due to external factors (for example, transport inaccessibility); - imbalance of nutrition from certain components, which leads to loss of health of the nation or certain groups of the population; - low control over food safety, which makes food a threat to life and health of the nation; - depletion of the natural potential of agricultural production in the country leads to a decrease in the level of food security of the nation; - low material and technical, financial, scientific and technological potential of sustainable reproduction of agro-industrial complex [15].

Short-term factors that pose a potential threat to food security in the region include the following: - instability of agricultural production and the possibility of
natural disasters that reduce food security in some periods; - high dependence of the region's food security on external sources against the background of unstable conditions of national and world markets and foreign exchange earnings from imports; - unstable foreign policy of the country in the world can lead to a trade embargo and other similar sanctions.

The most important indicator of the level of food security is the caloric content of the daily diet of the population (and the associated total amount of food per capita), that is the indicator of consumption (in strategic or natural equivalent) and compliance with international standards [2, p. 67].

The indicators used to assess the level of regional food security can be both absolute and relative. Absolute indicators (for example, the gross agricultural product of the region, the cost of the minimum set of food products) are important characteristics of the state of agro-industrial complex and food market of the region. However, most of them allow only an indirect assessment of the level of food security. Therefore, a special role in the system of food security indicators belongs to relative indicators, which makes it possible to determine the level of phenomena that characterize food security and compare the state of food security in different regions, regardless of interregional differences in the structure and level of food production and consumption. At the same time, for a more complete analysis of food security in the region, such indicators should be supplemented by the calculation of absolute values.

The analysis of the state of food security of the region, according to the established criteria, can be carried out in these four areas by detailing and calculating indicators in the dynamics over many years, which characterize the current state and trends in this state [15].

To characterize the state of food consumption in the region, the following indicators can be considered:
1. The composition and structure of the population of the region, which make it possible to identify the share of urban and rural population, the working age population, retirees, as well as life expectancy at birth.

2. The size of the subsistence minimum, the cost of the minimum food basket compared to the average monthly salary and social benefits, the average monthly pension. Population with incomes below the subsistence level. The share of household expenditures on food in the cost structure. Purchasing power of the population.

3. Distribution of monetary income in society (decile stratification coefficient, Gini index).

4. Caloric content and structure of the monthly diet, the average consumption of basic foods, the ratio of rational dietary norms.

5. Dynamics and level of food prices. Changing the value of the food basket.

6. Development of food trade infrastructure, retail structure.

To characterize the potential of the agro-industrial complex of the region, the use of the following indicators is proposed:

1. The level and structure of production of the most important types of crop and livestock products and food in the dynamics (absolute values per capita). Crop yields, livestock and poultry productivity.

2. The state of the material and technical base of the agro-industrial complex (park of the main types of equipment, depreciation of the fixed assets of the processing industry, investments in the agro-industrial complex). Indicators of stock, mechanical, energy equipment of agricultural and processing enterprises.

3. The share of agriculture in gross regional product.

4. Price ratio index for agricultural and industrial products (price disparity).

5. The share of costs of agricultural producers.
6. The state of the social infrastructure of the village.
7. The size of state support for the agricultural sector.
8. Indicators of formation of the regional food fund.
9. Availability and condition of natural resources for agricultural purposes (agricultural land, fertilizer application, erosion processes).

To characterize the export-import of food in the region, the following indicators are analyzed:

1. Import-export of food products.
2. Food self-sufficiency (share of imported food and food imported from other regions in the final consumption of the region) by main types of food products.
3. The ratio of food consumption per capita due to regional production to rational consumption rates for the main types of food.

To assess the quality of food in the region, the following indicators can be used:

1. Volumes of detected food products that do not meet quality requirements.
2. The content of harmful substances in the inspected products.
3. The ratio of the number of products rejected by the control authorities to the total number of inspected products [15, p.70].

To characterize the food independence of the region in real conditions, you can use a modified first method, while the calculations do not take into account all food produced and consumed in the region, but only those that are part of the main (vital) products. Such products are food products that are traditionally produced in Ukraine and are the structure and volume of the basis of the food market.

The application of the generally accepted 20% food independence threshold to characterize the region’s food security can only be justified for agriculturally developed regions that have sufficient bioclimatic potential for the production of all
other foodstuffs. In other cases, safe levels should be calculated for each food group, taking into account the possibilities of economically feasible production of this group in the region and the presence of stable interregional ties within Ukraine for the import of this group.

Quantitative assessment of food quality seems to be the most difficult, as the results of non-compliance of harmful substances in food consumption with regulatory consumption or non-compliance of products with established standards can be used to assess the quality of all food products only with a certain degree of error. In this case, the most applicable indicator (although it characterizes the overall quality of food only indirectly) can be considered the ratio of the number of products recognized by the control authorities in accordance with the quality requirements to the total number of inspected products.

Calculated on the basis of the described method, the food security index of the region makes it possible to characterize the level of food security in order to analyze the dynamics of its change and compare the regions at this level. The disadvantage of this indicator is a certain conditionality of determining the security or insecurity of food security of the region on its basis (it is obvious that the higher the indicator, the better the state of regional food security). Since in the world scientific practice for the assessment of food security the threshold values of the main components of its factors have become the most widespread, it is expedient to supplement the indicator with a number of indicators for which such threshold values have been set. Threshold values of food security factors are determined depending on the national demographic and natural and economic characteristics of each region, as factors can be differentiation of income and consumption, average consumption of animal and vegetable protein, poverty and degradation, degradation of the individual and family, increasing mortality, including infant mortality, life expectancy.
Based on the definition of problem areas (for which the values of the calculated indicators are the lowest), priority areas of state regulation should be formulated, goals and methods of their achievement should be determined within the food security system of the region. Thus, the analysis of indicators used to characterize the state of food security is an objective basis for the formation of strategy and tactics for its provision.

Assessing the current state of food security in the regions, we can identify a number of positive characteristics, namely: the formation of market infrastructure (system of wholesale food markets and marketing information); income growth; increase of self-sufficiency of the population in foodstuff owing to expansion of the sizes of farms of the population and country sites. However, there are also negative characteristics, in particular: reduction of the purchasing power of the population; imperfect state regulation of foreign food trade; there are no conditions for the stable functioning of the food market; conditions have not been created for stable growth of production of the main types of agricultural products, including potatoes.

In Ukraine, two main areas of food security should be considered. First, it is necessary to ensure the supply of food in such quantities that could provide a healthy and nutritious diet. Secondly, emphasis should be placed on achieving self-sufficiency in agricultural products (including products produced by households), as well as on state support and protection of domestic producers, which automatically adjusts the import of products.

Problems in the field of food security are closely related to two main reasons that are emerging in the agricultural sector:

1. The presence of land capital outside economic turnover. Domestic and foreign business demonstrate readiness for greater economic development of the territory of Ukraine, development of its infrastructure, but only under the condition of reasonable territorial organization of the economy, guarantee of stability of land
policy, perfection of the legal basis of land use. The permanent extension of the moratorium on the purchase and sale of agricultural land does not allow for the full use of financial instruments to attract investment through the credit mechanism, as the mortgage allows the alienation of mortgaged property (land), which can not be leased.

2. Insufficient financial resources for stable management of agricultural activities by agricultural producers. Lack of investment funds, difficult access to bank loans, low level of state support for agriculture make it difficult for farmers to access working capital needed to cover the time gap between the need for funds and the period of favorable sales prices [7].

The problem of food security of the population of the regions of Ukraine is complicated by the inefficiency of mechanisms for the formation of interregional markets, as a result of which in some regions there is a constant shortage of certain foods and, as a consequence, inflated prices. This situation in the food market has developed as a result of ignoring the requirements of objective economic laws (value, competition, etc.) and socio-geographical (territorial specialization, complexity, proportionality, rationalization of relations) [4, p.153].

The main conditions for ensuring food security in the region are [6, p. 13]: - economic affordability of food; - rational combination of food of own production and imported within the single economic space of the country; - inadmissibility of interregional barriers to trade.

Conclusions. The final conclusion on the state of regional food security can be made only on the basis of a comprehensive analysis of the whole set of indicators of socio-economic condition of households, food market, all areas of agro-industrial complex and natural agricultural resources of the region, as well as interregional and foreign trade.
In our opinion, the food security of the region is a holistic system that provides for the existence of supply and demand of the population of the region in quality food products. Therefore, the food security of the region should be understood as a stable provision of the population of the region with quality and affordable food at a rational level under normal conditions, and in case of emergencies - at a minimum, based on effective specialization of the region and interregional relations.

To restore high levels of agricultural production, stabilize its consumption, which is a prerequisite for improving food security at the national and regional levels, it is necessary to expand the limits of state support for agricultural producers, reduce lending rates, institutional support and more.

Favorable natural and climatic conditions for growing the vast majority of crops and strong human potential allow Ukraine not only to ensure its own food security, but also to become an active player in the world food market. Therefore, it is necessary to accelerate the process of reforming the agricultural sector of Ukraine, which requires significant modernization in the direction of entrepreneurial activity in rural areas, introduction of innovative technologies in production, ensuring the profitability of producers, as well as social infrastructure and rural development.

Thus, the strategic goals of the leading agro-industrial states in the context of the global food crisis should be to increase the production of food resources and ensure a proper place in the world food market. It should be recognized that the priority development of agriculture is in the national interest and is a guarantee of food security of the state. Accordingly, measures should be taken to provide priority state support for these industries, their restructuring, technical re-equipment and financial support with a focus on highly efficient use of natural resource potential of each region of Ukraine.
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