

FOOD SECURITY CONCEPTS: HISTORICAL EVOLUTION AND CURRENT STATE

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The article deals with the evolution of the concept of food security and provision of the population with food, which we have classified into five stages. By now, a new direction of security in the system of national security has fully formed - food security, with its categorical apparatus, its theoretical and methodological basis and practical approaches to providing the population with food. It is noted that the peculiarity of all stages of food security is that it is not static, but dynamically developing. The modern, fifth stage of food security development has turned out to be the most complicated and in modern time frames it has become a weapon of global confrontation, food supplies from a number of countries are blocked. In this situation there is only one way out - to ensure food security at the level of national states.

Key words: *Food security, practical approaches, evolution, stages, production, consumption, self-sufficiency*

1. INTRODUCTION

The problem of food security is one of the most significant in the modern world. It affects the interests of all countries, becoming more and more urgent as the food supply worsens, the world trade in agricultural products and food decreases, and the global situation in the world is currently aggravated. In this regard, the issue of food security has become highly politicised and

one of the most debated.

Referring to the complex, multilevel and multifaceted nature of the affected problem, researchers often emphasise that for this reason it is difficult to offer a single definition of the scientific category “food security”. Indeed, the analysis of the evolution of the term “food security” shows that it is not static and has been changing within certain time frames depending on the degree

of development of the world and national economies, the activities of international organisations and national governments and a number of other factors. In our study we presented an approach in which we identified five stages in the evolutionary development of the concept of food security.

Since ancient times, security has been associated with the ability of a state to protect itself and feed its population. One of the first to note the importance of agricultural production for the development of the country was François Kennet, who in the early 18th century declared the real wealth of the nation to be “the products of agriculture” [9].

However, it was scientifically formulated only in the late 18th century after T. Malthus put forward the idea of comparing the dynamics of population and available means of subsistence [7]. To assess food security, T. Malthus suggested using the ratio between the indicators of production and consumption per capita. Later on, this formula formed the basis of modern economic analysis.

T. Malthus's reasoning led to the conclusion that the provision of food for the population is a prerequisite for its existence, and this provision does not always provide the possibility of normal human existence. In other words, the very functioning of a man as a living being is not always

adequate to the availability of food opportunities available in nature, and a simple increase in the number of people undermines the basis of their existence. Malthus attributes the relatively low rates of food growth to the so-called law of diminishing soil fertility [7].

2. STAGES OF EVOLUTION OF THE CONCEPT OF FOOD SECURITY

The first stage in the development of the idea of food security is characterised by the fact that the national economy, its production capacity, i.e. the country's ability to provide the necessary means of subsistence for its citizens regardless of external factors, is considered as the source of its provision. The level of provision of the basic biological human need for nutrition, the quantity of products produced, their qualitative characteristics are an indicator of the maturity and resilience of the state, its ability to feed the growing population and resist disease, which ultimately forms the material basis for the progressive course of the historical process and economic development of the country.

The next second stage in the development of the concept of food security was formed in the 1970s, during the period of tangible food shortages associated with the world food crises, and it is characterised at

its core by the general liberalisation of the economy and increasing volumes of foreign trade, including exports. The biological notion of security was supplemented by economic, and more specifically foreign trade aspects. At this stage, the world food system began to take shape, designed to cover the needs of the world's population in food products, to ensure the movement of food products between countries and regions within the international division of labour, taking into account the factor of comparative advantage.

In the 1970s, the world community came to the realisation that food crises, even those that began within one state, soon acquire an international character, and the conditions for overcoming them are also created by joining efforts at the global or regional level. The world grain crisis of 1972-1973 contributed to the fact that the problem of food supply became an important factor in the national security of all countries [8]. The term food security was first introduced into international circulation at the UN General Assembly in 1974. At that time, world food security was understood as “maintaining stability in food commodity markets with the availability of basic food products for all countries of the world” [6].

During this period, the fight against hunger was proclaimed one of the global problems of mankind,

the concept of “world food security” emerged, and food security criteria were developed, which are divided into physiological (the need of the human body for a certain amount of energy and nutritional elements, the permissible content of substances harmful to the human body in products), economic (the physical availability of food for different categories of the population together with the possibility of purchasing it on the basis of the following criteria [6].

In addition to the realisation of the need to join forces to ensure food security, the idea that national food security is critically dependent on foreign trade revenues has gained ground at this stage. This was prompted by the energy crisis of the 1970s, when the European economy was hit hardest by oil shortages. The restriction and, in some cases, outright embargo on oil supplies to European countries brought them to the brink of economic collapse. This period saw the beginning of numerous studies on the limits to the growth of this kind of dependence, which leads to a critical level of threats to national security, and the notion of food security was supplemented with an aspect of foreign economic relations, analysing the possibility of stable and reliable external food supplies and introducing the concept of “food independence”.

Another change in the approach to food security occurs in the 1990s,

when it turns into a global problem, i.e. it is considered as an element of globalisation, the interconnection of world and national economic development. The third stage of understanding food security has begun. The object of analysis is not national self-sufficiency (production of the necessary amount of food products), but the possibility of using the world market to purchase food. The concept of food security is supplemented by its accessibility for certain groups of citizens.

This approach is reflected in a number of decisions taken at the international level. According to the 1996 Rome Declaration on World Food Security, poverty is recognised as the main cause of food shortages [10].

The UN has formulated the Millennium Development Goals, of which food security is an integral and essential part. The ambitious target is to halve the proportion of people suffering from hunger by 2015. This is to be achieved through the overall development of underdeveloped regions with international support. Signatories to the Declaration and Plan of Action on World Food Security have committed themselves to eliminating hunger, building a fair food trading system, and ensuring equal access to food for all segments of the population. A system of food assistance to countries affected by natural disasters is being developed.

Food security is recognised as an essential part of each country's economic security.

In 1996 in Rome, at the World Conference on Nutrition and Sustainable Agriculture, the term food security was formally defined in the Declaration adopted by the World Conference on Nutrition and Sustainable Agriculture as “the state of the economy in which access to food, drinking water and other nutritional products of a quality, variety and quantity necessary and sufficient for physical and social development of the individual, for health and for the expansion of human life”.

The World Conference on Nutrition (1996) definition of “food security” contains the following essential elements [6]:

1. physical availability of sufficient quantitatively adequate, safe and nutritious food;
2. economic accessibility to food of adequate quantity and quality for all social groups;
3. autonomy and economic independence of the national food system (food independence);
4. reliability, i.e. the ability of the national food system to minimise the impact of seasonal, weather and other fluctuations on the supply of food to the population in all regions of the country;

5. sustainability, which means that the national food system develops in the mode of expanded reproduction.

The global food crisis that emerged in 2004 can be conditionally considered the beginning of a new - the fourth stage of formation of views on the problem of food security. The agro-food crisis affected not only the deterioration of indicators of the global food situation (rising food prices, malnutrition of especially vulnerable segments of the population), but also the decline in the efficiency of the agro-food sector, weakening competition and monopolisation in the food market due to the ruin and withdrawal of small producers.

While at the third stage there was an understanding of the need to provide international food support to countries in need, since 2004 it has become clear that in the context of global agro-food crises arising from unpredictable natural unfavourable natural phenomena, from which no state is insured, it is possible to solve the problems of food security only by coordinating the policies of states and uniting their efforts at the global level.

In contrast to the previous stages, starting from the moment of certain events in the world economy, the process of formation of the fourth stage can be called national. Based on the research conducted

mostly within the framework of international organisations, it can be concluded that mankind began to approach the concept of forming an integrated agro-food market during this period. The food market began to receive special attention from the state regulatory bodies. At the same time, state regulation in agriculture is increasingly influenced by external factors such as international treaties and agreements. This trend faces the problem of national security, the threat of dependence on food imports. The dominant view is that the problem of preserving the position of the national producer in the market is moving to the background. However, by supporting the national producer, countries are able to maintain their position on the world market mainly by increasing their competitiveness. This is the main characteristic feature of the fourth stage in the development of the concept of food security.

Consideration of approaches to the understanding of food security in the historical context allows us to formulate more clearly the concept and essence of such an important economic category taking into account different points of view. In this case, according to the authors, it is necessary to proceed from the generally accepted view of food security as the availability of food in the economic and physical sense. It is worth noting that “physical availability” is a characteristic

of supply in the food market of a particular state. In turn, “economic accessibility” means the possibility and availability of financial security of the population necessary to purchase food at affordable prices and forming consumer demand on the scale of the national food market. In other words, it is a state of the food market in which the ratio of supply and demand for food products forms prices that ensure the ability of the population of all income groups to meet their nutritional needs.

However, this definition of food security does not reveal the sources, in other words, the very factors of ensuring the physical and economic availability of food, whereas this aspect of the issue is the most important and essential for understanding the category of food security. It is a combination of such internal and external factors as national agrarian production, creation of food reserves, export-import supplies of food, international food aid, etc. It is in this dimension that the watershed between different, contradictory approaches to the analysis of the concept of food security lies.

In developed countries (the USA, Germany, France, Japan), the need to address food security issues is given great importance [5, p. 6 - 34]. However, in these countries this issue is considered from the perspective of the achieved high level of food

self-sufficiency, although certain differences in approaches should be emphasised. For example, in Germany, food security is considered an important problem that arises only in conditions when the issue cannot be solved through market regulation. In fact, Germany is dominated by the approach in which this problem is analysed from the point of view of a crisis situation emergence in the country [2, p. 32]. In the USA, food security is regarded, firstly, as support for the stability of sales in the domestic food market (primarily national production), secondly, as a form of implementation of food aid programmes for the poor, thirdly, as a stimulus for agricultural exports and the use of food supplies in the interests of foreign policy [1]. Along with this, food security in the USA is understood as “food safety for human health”. As for the problem of food independence, it remains outside analytical developments and studies of American economic philosophy.

Another approach to the problem of food security is characteristic of countries with economies in transition. Formally, food security is considered in these countries as a means of solving the problem of providing the country with basic food products while simultaneously addressing the problem of quality and access of the population to food. However, in fact, the main emphasis is placed on the problem of self-

sufficiency, when the absolute value of production of basic commodities in the country itself is specified. The modern theory of food independence is not limited to abstract inferences, but is increasingly based on quantitative assessments and various methods of calculations of optimal levels of food supply. In particular, the sufficiency of food self-sufficiency of the country is periodically established in the form of parameters of actually achievable specific weight of the main types of domestic food in the total volume of its consumption and in the commodity resources of the domestic market. It should be stressed that the quantitative parameters of production of food and raw material resources sufficient to ensure domestic consumption are calculated taking into account scientifically justified physiological norms of per capita consumption.

It is necessary to emphasise the significant difference of opinions in the literature in assessing the levels of self-sufficiency. For example, some authors (S.U. Nuraliev and others) note that food dependence can occur when the population is provided with food obtained at the expense of domestic production in the volume of less than 80%, and the presence of imported food products in the domestic market will reach volumes of more than 20%. In their opinion, the critical volume of agricultural production as a whole

should be ensured at the expense of own production by 60 per cent. Otherwise, the state will lose its food independence. It should be borne in mind that the recommended indicator cannot be universal and absolute. The choice of security indicators (food self-sufficiency) is conditioned by the specifics of agrarian production, the degree of economic development of the country, the level of dependence on food imports and other factors.

Important criteria of food security include the availability of strategic food reserves sufficient to provide the population under the norms of a crisis situation for the period of mobilisation measures to restructure the country's life support system in order to overcome or compensate for the damage caused by the crisis situation.

Moreover, strategic food reserves, while occupying an intermediate role in the market mechanism, become one of the first places in ensuring food security almost everywhere (at the global, regional and national levels).

One of the main conditions for food security of the country is sustainable self-sufficiency of the country in grain, rational formation and use of its resources. Such factors as a high share of grain consumption for food purposes, the ability of grain to retain qualitative and quantitative parameters during transportation, suitability for long-term storage

create the possibility of forming insurance and reserve funds, which gives grain a priority in the economic society.

In the concept of food security of the state a special place is occupied by the problem of import, its influence on the system of food supply of the population, on the development of agro-industrial complex of each modern state. In the tradition of Western economic science, import is interpreted as an alternative to food self-sufficiency. The limits of imports are set by market laws taking into account comparative advantages and the level of production of agricultural products and foodstuffs achieved by the country. According to this approach, external (imports) and internal sources of food are equivalent. The problem of food independence in this case remains outside the scope of analysis and discussion.

Such an assessment of food imports is inherent in a number of international organisations and UN programmes that are aimed at fighting hunger in developing countries. For example, FAO experts emphasise the following features of food security:

- food security does not mean self-sufficiency in food;
- a country should endeavour to produce enough food for its needs if it has comparative advantages;

- a country must be able to import the necessary amount of food and meet the food needs of its citizens.

In this interpretation, imports do not harm the food sovereignty of a country, but, on the contrary, strengthen its security in terms of supplying the population with the necessary products. It is characteristic that European and American experts explain the problems with food shortages in many developing countries not by a lack of production and self-sufficiency, but primarily by a lack of funds necessary to pay for the import of food resources.

An important feature of the problem is the possibility of ambiguous, often opposite approaches to the assessment of social and economic consequences of import activities for the national economy. On the one hand, imports are a consequence of natural processes in the world economy, when national markets of individual countries become part of the global market of goods and services, international food trade develops and with it the system of interdependencies in all areas of the economy, including food and agricultural complexes. Imports optimise production costs, contribute to meeting the country's food needs, ensuring rapid saturation of the domestic market and saving public labour.

On the other hand, at a certain stage import activities may lead to a sharp and irrational increase in the share of foreign products in domestic consumption. This is accompanied by a reduction in employment in the sphere of material production, deterioration of the financial condition of local enterprises, up to their bankruptcy. In accordance with researchers' conclusions, in particular, Y. N. Pleskachev, "the systematic increase in the total volume of consumed food products the share of imported food creates a very specific direct threat to national economic security" [6].

As in the case of self-sufficiency, the assessment of food imports is based on a quantitative approach, including certain criterion assessments of such imports from the point of view of maintaining food independence. In particular, world experience shows that a country maintains its independence if the ratio of imports to domestic consumption expressed in per cent (import quota) fluctuates within 20-25%. According to the scientist Nikonov A.A., the threshold of food dependence should not exceed 10-15 % [6]. After this level the pre-crisis state of the food situation comes, when own production is insufficient and there is a complete dependence on imports.

At the same time, the export activities of agro-industrial

complexes provide a very reliable support for food security in the current conditions of the increasing formation of international markets for agricultural products and foodstuffs. Food exports, for example, provide foreign exchange resources, which in turn can be invested in agriculture and the food industry.

Moreover, without expanded external markets in the current conditions of specialisation and intensification of production, progress in the agricultural sector in most countries of the world becomes impossible. The close relationship between production and export activities is evidenced by the fact that the most favourable countries in terms of food security are usually included in the list of net exporters of agricultural raw materials and food (USA, EU countries, Canada, Brazil and others).

According to experts, the main factor for sustainable development of the economy is its "balance between exports, imports, domestic production and consumption". As noted above, if the share of imports of a socially important product in domestic consumption becomes higher than 20-25%, there is a threat to economic and food security. Similarly, the same applies to exports: in the event of global economic shocks, "an economy in which exports and imports of goods are at the level of $\frac{1}{4}$ of national

production will be more resilient". This approach is also justified for the agro-industrial sector, to strengthen the country's food market and its food security as a whole [6].

At present, in our opinion, the fifth - modern - stage of food security has arrived in the period from 2020. It is characterised by the fact that international organisations have signed their impotence to ensure international food security and it has moved to the level of national governments. Therefore, on the one hand, the underdeveloped countries are left alone with the problem of food supply, on the other hand, today the food strategy of states has become focused on achieving food security as the most important condition for preserving their sovereignty and independence, economic stability and social sustainability. The task of governments is to develop long-term goals of food security on the basis of objective economic processes and take appropriate measures of socio-economic regulation [3, p. 3];

3. THREATS AND RISKS TO FOOD SECURITY

The main threats and risks to food security in the world include the following:

- natural and climatic factors (for example, in conditions of crop failure there is a threat of failure to fulfil obligations under contracts for the supply of agricultural products);

- population growth and, against the background of rising living standards in developing countries, an increase in effective demand for food;
- reduced growth rates of investment in the agricultural sector of the economy;
- cyclic nature of the economy (the optimal condition for achieving food security is stability, not only of natural and climatic conditions, but also of economic development.
- price volatility, which plays a special role in the destabilisation of the food market, including in conditions of coincidence of agro-food and general economic crises (volatility is an integral characteristic of food prices. The mechanism of food price volatility was identified back in the 1990s, patterns of its propagation between food commodities were found, and a link was established with oil prices, exchange rates, stocks and yields.
- food supply has become a political international confrontation, hybrid warfare.

Thus, current practice shows that the food sector is highly vulnerable to political and economic shocks.

Economic crises have a negative impact on the financial component of the food sector, leading to destabilisation of the credit system for agricultural producers, who, due to these constraints, are forced to either refuse to expand or reduce production altogether. For the consumer, this means limited supply on the market and, as a consequence, rising food prices. Food problems are also aggravated by the fact that, against the background of general political confrontation, food supply has become one of the factors of hybrid warfare. Accordingly, the essence of food security is the ability of the state to overcome external threats and risks to the functioning of the food system. In other words, food security is understood as independence from internal economic shocks, crises in the agro-industrial complex, as well as from the uncertainties of the global food situation, from political pressure, sanctions and other forms of threats from the outside world. Today's situation with global political confrontation, closure of borders, isolation of states has shown more than ever the importance of self-sufficiency in food supply for the population of each country.

In this unstable situation, the role of the state is more important than ever. Emphasising the role of the state, the authors are of the opinion that private entrepreneurship and market mechanisms cannot ensure

the priorities of food independence of the state. This task is solved only by the state system of economic regulation. In food security issues, the state performs a dual function: on the one hand, it forms the food complex of the country, regulates its activities in the market, and on the other hand, it provides it with favourable legal, political and organisational conditions for sustainable development, protects food security from risks and threats from internal and external factors. The latter circumstance particularly emphasises the regulatory role of the state as a guardian of food independence and security.

To understand the essence of food security in the modern period, along with identifying the factors of instability, it is necessary to focus on the issue of mechanisms that are involved in the fulfilment of food security objectives at the national level. We are talking about the mechanisms of financial assistance and stimulation of agriculture, support of export-import operations in the world food market, etc. The issue of the role of the state in ensuring the physical and economic accessibility of food resources comes to the fore.

4. CONCLUSIONS

Thus, food security is a complex and multifaceted phenomenon of economic life of any state as a

purposeful activity of the state and international organisations in the field of formation of the food base, physical and economic availability of food products, on the one hand, and state protection of food security from numerous risks, challenges and threats. The national agro-industrial complex and its effective functioning to provide the country's population with food in accordance with health standards occupy a leading place among the main factors in achieving food security goals. In modern conditions, the optimal approach to solving the problem of food security should be considered self-sufficiency, which takes into account not only the volume of agricultural products produced, but also the level of their quality and the degree of affordability for all consumers. This approach largely depends on the sustainability of national food security of the country, which is guaranteed by the appropriate dynamics of socio-economic development of the country and the functioning of the agro-industrial complex, which provides the necessary level of production of all major types of products that guarantee food independence.

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