



Indo - Asian Journal of Multidisciplinary Research (IAJMR) ISSN: 2454-1370

METHODOLOGICAL ASPECTS OF ASSESSING FOOD SECURITY

Khotamov Ibodulla*¹ and Yuldasheva Dildora²

¹Chief of "Industry Economics" Department, Ph.D in Economics, Tashkent State University of Economics, Republic of Uzbekistan.

²Master Student, Tashkent State University of Economics, Republic of Uzbekistan

Abstract

This article reveals the essence of food security and the methodological aspects of assessing the level of food security. The author also presents indicators that affect the level of development of the agro-industrial complex that ensures this security. In this article, food security is understood as the ability of the state to guarantee the satisfaction of the population's need for quality food at a level at which its normal functioning is ensured.

Key words: Agro-industrial complex, Theory of consumption, Food, Population, Forecast of growth, Income, Index Engel and Agricultural products.

1. Introduction

Food consumption, unlike other products, has a saturation point. A person can absorb only a certain amount of food, primarily within the physiological boundaries. For example, a thirsty consumer will enjoy drinking the first glass of water, however, the pleasure received from subsequent glasses will decrease. Depending on the physiological capabilities, he will not be able to drink the next glass of water. Thus, consumption reaches a saturation point. Adam Smith wrote in *The Wealth of Nations* that the need for food of every person is limited by the capabilities of the human stomach.

2. Literature Review

The theory of consumption is associated with the usefulness of the good, i.e. the ability of an economic good to satisfy one or more human needs. The regularity is revealed that the parts of any good consumed sequentially have diminishing utility for the consumer.

Although the total usefulness is constantly increasing with an increase in the amount of good, the marginal utility of each additional unit of good is steadily decreasing. Therefore, the more good we possess the less valuable each additional unit of this good has for us. T.O. a person satisfies his need and comes to a point of saturation (Strategic Food Security Management, 2009). Tursunov (2018) substantiated the position that consistently consumed quantities of any good have diminishing utility for the consumer. The consumer will drink water until the marginal utility of the next glass is zero. Although overall utility is increasing, marginal utility is falling, which leads to a slowdown in overall utility. Clustering capabilities in Uzbekistan were studied by several scientists as well as Ergashxodjaeva (2018), Tursunov (2018) and others.

3. Analysis and Results

Food security of the country is an important component of the national security system and, as such, characterizes the economic stability and political independence of the state, its ability to provide the basic primary needs of its citizens without prejudice to national - state interests. Based on this, we can distinguish a

*Corresponding author: Khotamov Ibodulla
Received: 10.10.2019; Revised: 13.11.2019;
Accepted: 25.12.2019.



number of tasks aimed at achieving the maximum level of food security:

- a) Creating a stable economic environment
- b) Ensuring equal opportunities for business entities
- c) Pursuing a reasonable national employment policy
- d) Achieving sustainable, intensive and diverse food production, increasing productivity and labor efficiency
- e) Implementation of integrated strategies for the development of agro-industrial sectors in order to increase local food production opportunities
- f) Promoting the introduction of advanced technologies in the production, processing and storage of raw materials and food
- g) Conducting active foreign economic activity, optimization of export-import activities.

According to expert estimates, to ensure food security requires at least 80 % of the production of food consumed and 20 % of the volume of replenished insurance stock (Strategic Food Security Management, 2009). In the case when certain types of food are not produced in the country or their production is limited, food security in them is ensured by procurement in other countries. At the same time, it is important to prevent the emergence of food, political or other dependence on exporting countries in terms of missing food.

Food security should be based on a strategy that includes:

- Determination of national interests in the field of agribusiness economics
- Characterization of the most probable external and internal threats to food security as a set of conditions and factors creating a danger to the realization of the vital interests of the individual, society and the state in the field of food supply
- Identification and monitoring of factors affecting the sustainability of the national agri-food system in the short and medium term
- The formation of economic policies, institutional reforms and the necessary mechanisms to mitigate the impact of

factors destabilizing the national agri-food system

- Goals and objectives of the country's food security system
- Determination of criteria and parameters of the state of the agricultural economy that meet the requirements of food security and protect the vital interests of the country
- A mechanism for the functioning of the food safety system based on the application of legal, economic and administrative measures by all government institutions.

Food safety is classified by type according to characteristics (The economic mechanism of food security in Kazakhstan, 2018). The first sign is the territorial community of the population. In turn, it is divided into world, continental, interstate and national, regional.

World food security is controlled by the UN, continental can be provided by all states of one continent, interstate - by two or more countries by agreement, national - by a certain state, regional (14 regions, 2 cities of republican significance) - by regional and local governments. A sign of food security can also be a "period of security", which is divided into past, current, upcoming and forecasted (Campbell McConell and Stanley Brue, 2012).

A classification feature may be the structure of food resources that make up its security. The structure is divided by type of food, degree of extraction of useful substances from raw materials, types of products obtained by processing agricultural raw materials, and types of finished products produced in agriculture. One of the main signs of food security is the quantitative assessment of various types of food, which is measured by mass, pieces, conventional units (Nureyev, 2014).

In determining the effectiveness of food production, it is necessary:

- a) To take into account the industry-specific features of agriculture, increasing the economic fertility of the land, the ratio of the increase in output and net income per unit of land area and livestock



- b) To ensure that technical progress is brought to the creation of a system of machines for the comprehensive mechanization and automation of production, which ensures the maximum output of high-quality products and reduces the cost of total (living and materialized) labor with a minimum cost of functioning production assets
- c) To evaluate the economic efficiency and environmental consequences of food production, not only from the point of view of individual farms, agriculture as an industry, but also the economy as a whole. All these aspects of food production should be in an optimal, balanced combination.

The main hygiene requirements for a balanced diet are as follows (The economic mechanism of food security in Kazakhstan, 2008):

- The energy value of food should compensate for all energy costs
- Food should contain, first of all, all necessary components necessary for the body that are not synthesized by the body
- The diet should be balanced, nutrition should be varied, including a wide range of animal products (meat, dairy, fish products) and plant origin (vegetables, fruits, berries, greens) in the correct proportions, eliminating uniformity
- Food products must be benign and not contain pathogens or toxins of chemical and biological origin in concentrations exceeding hygiene regulations
- Food should have good organoleptic characteristics (color, smell, taste, texture, temperature, appearance, etc.), have good digestibility, digestibility and cause a feeling of fullness
- The power must have the correct mode (Pindike and Rubinfeld, 2012)

Often, consumers unknowingly buy life-threatening products and put their health at risk, and only because they are not aware of the safety features of the products they buy. In some cases, the seller may know more about the safety of the product than consumers, for example, the seller of vegetables knows that pesticides were used to grow the product, and he may know something about the health risks regarding the use of pesticides. This indicates that the food market is characterized by asymmetric information (Economic Analysis of Food safety, 2009).

Such information is characteristic of many situations in business (Pindike and Rubinfeld, 2012). As a rule, the seller of a product knows more about its quality than the buyer. The value of asymmetric product quality information was first analyzed by George Akerlof. An analysis of asymmetric information can help in understanding the market situation and developing possible options to avoid problems (Serova, 2011).

In general, the asymmetry of this type of information determines the failure of the market in which bad products crowd out good ones. Market failure can be overcome if sellers provide guarantees and sureties, and find opportunities to maintain a good reputation for their products (Stepanova, 2010).

The most important sign of food security is the degree of provision with domestic types of food. Depending on the climatic conditions, various states occupy, for objective reasons, a different position for providing the population with food.

The mechanism of food security is a self-organizing system of economic agents (enterprises, institutions, households) with their inherent economic mechanisms of management and inherent in the whole system of public institutions that regulate the activities of economic agents (The economic mechanism of food security in Kazakhstan, 2008).

The food security mechanism is a system that includes two subsystems:

- a) An organizational mechanism
- b) The economic mechanism.



The organizational mechanism for managing food security includes the following elements:

- a) Agro marketing as a tool for self-regulation of the agricultural market
- b) Administrative methods of state regulation of the agri-food system
- c) Agro-industrial integration
- d) Cluster development of agribusiness
- e) Logistics
- f) Ensuring the environmental safety of food

The economic mechanism of food security is a set of methods and forms of influencing the economic interests of producers in order to increase the efficiency of their production activities and saturate the market with high-quality domestic goods in volumes that allow satisfying the physiological needs of the entire population of the country at affordable prices, regardless of the global situation (The economic mechanism of food security in Kazakhstan, 2008).

Criteria are used to assess food security. At the national level, the degree of security is characterized by indicators such as the production of 80 – 85 % of the total volume of food products by domestic producers; the population's consumption of food with an optimal calorie level (2956 kcal per day); ensuring a rational nutrition structure and full satisfaction of the needs of the population in accordance with physiologically sound norms; compliance of food quality with the requirements of technical regulations; creation of a replenished insurance food supply at the level of 25 % of the annual volume of food consumption; the real possibility of satisfying the need for food products not produced domestically or produced in insufficient quantities through imports; production per capita of at least 1 ton of grain (Ibragimov and Tursunov, 2017).

The criteria for assessing the level of food security at the regional level are: the degree of satisfaction of physiological needs in the components and energy content of the diet,

assessment of the level of self-sufficiency in food (Economic Analysis of Food safety, 2009).

The level of physical and economic availability of food for various categories of the population implies both the availability of food resources and the adequacy of funds for a balanced diet. Assessment of the level of physical accessibility is carried out by comparing the actual amount of food consumed by the country's population with the standards for their consumption, which are based on the physiological norms of food consumption. The economic accessibility of food is defined as the ability of the population to purchase food products at the current level of prices and incomes in the amounts laid down in the minimum consumer basket. The next criterion for assessing food security is the degree of dependence of the country's food supply and resource supply of the agro-industrial complex on imports. The parameter of the country's independence from imports of vital food products is their low share in consumption.

4. Conclusion and Recommendations

In achieving a high level of food self-sufficiency and food security, the protection of a domestic agricultural producer is important. The size of strategic and operational food stocks should be consistent with their regulatory needs.

The sufficiency of operational republican and regional (regional) food resources is determined by the degree to which the population consumes vital food products in the amount of the consumer basket and the stability of their sale prices in cases of crop failure or other reasons for a decrease in the supply of food products and raw materials for their production.

The main threats to food security can be:

- Increased imbalance between global agricultural production and demand for it; saturation of the agri-food market with imported agricultural products, raw materials, food, the share of which in total consumption significantly exceeds the threshold level of food security
- Crowding out domestic food products from the domestic market



- Unsustainable agricultural development
- Low level of business activity in the food and processing industry
- Shortage of qualified personnel in the agricultural sector
- High poverty level of the population and its property differentiation
- Low level of development of the infrastructure of the agri-food market
- Moral and physical aging of the material and physical base of agricultural sectors.

To overcome external and internal threats, a system of measures should be formed aimed at:

- Improving the system of economic relations in the sphere of production, procurement, primary and deep processing, storage, transportation and sale of agricultural products
- Stimulation of the transition of small-scale production of the agro-industrial complex to specialized medium- and large-scale production, as well as the transfer of livestock and crop production to an industrial basis
- Development and implementation of the mechanism of the "green revolution" in agriculture, providing for:
 - a) The introduction of new high-yielding varieties of agricultural crops of domestic and foreign selection with the aim of a sharp increase in food resources
 - b) Mechanization and chemicalization of agriculture
 - c) Drainage and irrigation of land
 - d) Restoration of the fertility of degraded soils with impaired humus content
 - e) Stimulation of ecological and economic systems of agriculture
- State support for the income of agricultural producers on the principle of regulating price parity in the exchange of agricultural products and industrial sectors of the agro-industrial complex.
- Abandonment of the practice of underfunding vital costs and the introduction of a system of minimum guaranteed prices that provide agricultural producers with a sufficient level of profitability.
- The implementation of flexible taxation of agricultural producers, the provision of tax benefits to those producers who invest in the development of priority sectors and products, or adhere to the principle of sustainable development of production in compliance with environmental standards.
- A moderate protectionist policy to protect the interests of domestic producers by timely submission of proposals to initiate anti-dumping and countervailing proceedings against foreign manufacturers engaged in unfair competition in the Kazakhstani market.
- Protection of the population of the republic from substandard food products by improving the work of standardization and certification services and developing state standards for basic food products in order to harmonize with the system of international standards.

5. References

- 1) Campbell R. McConell and Stanley L. Brue. (2012). Economics. *Publishing Economics*, 2: 241.
- 2) Economic Analysis of Food safety. (2009). John Antle Research Discussion Paper. 20: 25.
- 3) Ergashodjaeva, S. J., Kyvyakin, K. S., Tursunov, B. O and Ahmadovich, H. Z. (2018). Evaluation of textile and clothing industry clustering capabilities in Uzbekistan: based on model of M. Porter. *International Journal of Economics and Management Sciences*, 7(439), 2.
- 4) General Hygiene / Ed. G.I. Rumyantseva, M.P. Vorontsova. Medicine, 2010. p. 28.



- 5) Ibragimov, I. U and Tursunov, B. O. (2017). Enhancement the mechanism of analyzing of the methodological principles for the development and improvement of methods of assessment. *Aydum*, 4: 11 - 13.
- 6) Nureyev, R. (2014). Consumer behavior in a market economy. *Economics*, 1: 138.
- 7) Pindike, P and Rubinfeld, D. (2012). Microeconomics. “Economics”, “Case”, 2012. P. 456.
- 8) Serova, E.V. (2011). Agricultural Economy. *HSE*, P.56.
- 9) Shishkin, V. I. (2008). Medical issues of food security (Experience and problems of ensuring food security of the state). Ekaterinburg: Publ. Ural. GAW, P. 48.
- 10) Stepanova, N. G. (2010). Food security in the process of social reproduction. *Canadian Economic Sciences*, 32.
- 11) Strategic Food Security Management. (2009). Analitic, an analytical review of the information and analytical magazine. *Almaty*, 1: 67 - 73.
- 12) The economic mechanism of food security in Kazakhstan. (2008). University Bulletin. *Turan*, 4(40): 35 - 43.
- 13) Tursunov, B. (2017). Role of Managing Industrial Stocks in Increasing of Textile Enterprises Capacity. *Journal of Applied Management and Investments*, 6(4): 260 - 266.
- 14) Tursunov, B. O. (2017). Principles and functions of Management of Production capacity. *Вопросы управления*, 3: 46.
- 15) Tursunov, B. O. (2018). Modern methods of production capacity usage management in textile enterprises. *Economics and Innovative Technologies*, 3: 32.

Access this Article in Online

Quick Response Code



Website	www.jpsscientificpublications.com
DOI Number	DOI: 10.22192/iajmr.2020.6.1.4
Thomson Reuters Researcher ID	K-4194-2016
ISI Impact Factor	3.652

How to Cite this Article:

Khotamov Ibodulla and YuldashevaDildora. 2020. Methodological aspects of assessing Food security. *Indo - Asian Journal of Multidisciplinary Research*, 6(1): 1980 – 1985.

[DOI: 10.22192/iajmr.2020.6.1.4](https://doi.org/10.22192/iajmr.2020.6.1.4)

