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GOJAEVA E.¹, GUTIUM T.², MAMEDOVA S.³

MODERN STRUCTURAL CHANGES IN THE AGRICULTURAL SECTOR AND THEIR IMPACT ON THE COUNTRY'S FOOD SECURITY

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Formulation of the problem. In the article, the author examines the evolution of the role of food security, both at the historical stages of development and in the modern world, as well as its place in the system of ensuring economic and national security of the state. The strategic priority of agrarian policy in most countries was ensuring food security, which was understood primarily as self-sufficiency in food. This became especially relevant in the 50s of the XX century as a result of the fact that military actions violated previously imposed trade relations, and violations in this area arose under the influence of the payment crisis. *The purpose of the article* is an analysis of modern structural changes in the agricultural sector and their impact on the country's food security. *The methodological basis of the research* in the article is the scientific work of the authors in the field of economics of culture, innovation management, management in the field of culture, as well as social partnership. The research was carried out on the basis of general scientific methods of research - a systematic approach, analysis and synthesis, methods of typological and comparative analysis, empirical methods. *The object of the study* is the sphere of culture, which needs conditions in which organizational and financial reforms are carried out, as well as the development and application of innovative management methods. *The hypothesis of the study.* Currently, all developed countries of the world, including the United States, Japan, and the EU countries, have their own national programs, laws and measures to ensure national food security. *Presentation of the main material.* The primary tasks of the state in the sphere of regulation of agro-industrial production should be the stabilization and development of agro-industrial production, ensuring food security, improving food security of the population, maintaining economic parity between agriculture and other sectors of the economy, converging income levels of workers in agriculture and industry, protecting domestic producers in the sphere of agro-industrial production. From the point of view of welfare economics, "the problem of food safety and quality is one of the specific features of the functioning of the agricultural market, which determine its equilibrium in a Pareto inefficient state. This, in turn, is the economic basis for the need for state policy intervention in the agricultural sector and the possibility of redistributing the financial resources of society for its development. *The originality and practical significance of the study.* In our opinion, the existing problem of food security should be considered in the context of economic security, since it concentrates the main directions of agricultural policy and economic reforms in the current market conditions. This process reflects the real trends in the development of agricultural production, the state of the market and the position of consumers in it, determines the degree of involvement and dependence on the world food market, applies

¹ **Годжасва Ельмира**, доктор філософії в економіці, доцент кафедри прикладної економіки, Азербайджанський державний економічний університет, м. Баку, Азербайджан.

Gojaeva Elmira Magomedovna, Doctor of Philosophy in Economics, Associate Professor of the Applied Economics Department, Azerbaijan State Economic University, Baku, Azerbaijan.

ORCID ID: <https://orcid.org/0000-0001-8413-4812>

e-mail: gocayeva.e@gmail.com

² **Гутіум Тетяна**, д-р екон. наук, доцент, Національного інституту економічних досліджень, Академія економічних досліджень Молдови, м. Кишинів, Молдова.

Gutium Tatiana Gheorghe, Doctor of Economic Sciences, Associate Professor, National Institute of Economic Research, Academy of Economic Studies of Moldova, Chisinau, Moldova.

ORCID ID: <https://orcid.org/0000-0002-8884-3269>

e-mail: gutium.tatiana1@gmail.com

³ **Мамедова Севда**, доктор філософії в економіці, доцент, доцент кафедри економіки та економічних відносин, Університет Одлар Юрду, м. Баку, Азербайджан.

Mamedova Sevda Binyat, Doctor of Philosophy of Economic Sciences, Associate Professor, Associate Professor of Economics and Economic Relations Department, Odlar Yurdu University, Baku, Azerbaijan.

ORCID ID: <https://orcid.org/0009-0000-6474-7291>

e-mail: memmedova.sevda@oyu.edu.az



the mechanism of state strategy taking into account internal and external factors in order to create the main life support system – food security. *Conclusions.* Taking into account the interests of economic security and socio-political stability in society, it should be noted that the food and agricultural complexes always remain the most important sectors of the economy. The primary task is to create conditions for economic management and entrepreneurial stability in the agro-food sector of the economy and to ensure state support for producers.

Key words:

food security, production efficiency, agricultural production, regional food market, economic and national security of the state.

СУЧАСНІ СТРУКТУРНІ ЗМІНИ В АГРАРНОМУ СЕКТОРІ ТА ЇХ ВПЛИВ НА ПРОДОВОЛЬЧУ БЕЗПЕКУ КРАЇНИ

Постановка задачі. У статті автор досліджує еволюцію ролі продовольчої безпеки, як на історичних етапах розвитку, так і в сучасному світі, а також її місце в системі забезпечення економічної та національної безпеки держави. Стратегічним пріоритетом аграрної політики більшості країн було забезпечення продовольчої безпеки, під якою розумілося насамперед самозабезпечення продуктами харчування. Це стало особливо актуальним у 50-х роках ХХ століття внаслідок того, що військові дії порушували раніше встановлені торговельні відносини, а порушення в цій сфері виникали під впливом платіжної кризи. *Метою статті* є аналіз сучасних структурних змін в аграрному секторі та їх вплив на продовольчу безпеку країни. *Методологічною основою дослідження* є наукова діяльність авторів у галузі економіки культури, інноваційного менеджменту, менеджменту у сфері культури, а також соціального партнерства. Дослідження виконано на основі загальнонаукових методів дослідження – системного підходу, аналізу та синтезу, методів типологічного та порівняльного аналізу, емпіричних методів. *Об'єктом дослідження* є сфера культури, яка потребує умов, у яких здійснюються організаційні та фінансові реформи, а також розроблення та застосування інноваційних методів управління. *Гіпотеза дослідження.* В даний час усі розвинені країни світу, включаючи США, Японію, країни ЄС, мають власні національні програми, закони та заходи щодо забезпечення національної продовольчої безпеки. *Виклад основного матеріалу.* Першочерговими завданнями держави у сфері регулювання агропромислового виробництва мають бути стабілізація та розвиток агропромислового виробництва, забезпечення продовольчої безпеки, підвищення продовольчої безпеки населення, підтримання економічного паритету між сільським господарством та іншими галузями економіки, зближення рівнів доходів працівників сільського господарства та промисловості, захист вітчизняного товаровиробника у сфері агропромислового виробництва. З точки зору економіки добробуту, «проблема безпечності та якості харчових продуктів є однією з особливостей функціонування аграрного ринку, які визначають його рівновагу в неефективному стані Парето. Це, у свою чергу, є економічною основою на необхідність втручання державної політики в аграрний сектор та можливості перерозподілу фінансових ресурсів суспільства для його розвитку. *Оригінальність і практична значущість дослідження.* На нашу думку, існуючу проблему продовольчої безпеки слід розглядати в контексті економічної безпеки, оскільки концентрує основні напрямки аграрної політики та економічних реформ у сучасних ринкових умовах. Цей процес відображає реальні тенденції розвитку сільськогосподарського виробництва, стан ринку та позицію споживачів на ньому. ступеня залученості та залежності від світового продовольчого ринку застосовує механізм державної стратегії з урахуванням внутрішніх і зовнішніх факторів з метою створення основної системи життєзабезпечення – продовольчої безпеки. *Висновки.* Враховуючи інтереси економічної безпеки та соціально-політичної стабільності в суспільстві, слід зазначити, що продовольчий і сільськогосподарський комплекси завжди залишаються найважливішими галузями економіки. Першочерговим завданням є створення умов для господарювання та підприємницької стабільності в агропродовольчому секторі економіки та забезпечення державної підтримки товаровиробників.

Ключові слова:

продовольча безпека, ефективність виробництва, сільськогосподарське виробництво, регіональний продовольчий ринок, економічна та національна безпека держави.

Formulation of the problem. In recent years, international economic processes taking place all over the world have acquired a global character and have had a significant impact on the economy of Azerbaijan. Since 2015, the country's economy has entered a new era. Dur-

ing this period, issues based on strengthening the degree of economic security in the world community, protecting domestic agricultural producers, and increasing the competitiveness of the agrarian and food market have become even more urgent. The agricultural sector, being a



strategic sector of the country's economy, reflects a multifaceted system in which its activities are influenced by natural, climatic, social and economic laws, which in itself determines the uniqueness of this industry. Analysis shows that the production-processing-sales chain is not working efficiently today. While the sphere of circulation in the structure of retail prices for food products exceeds 50%, the share of agricultural producers is less than 25%. According to the State Statistics Committee for 2021, Azerbaijan imports more than 50% of its demand. The population of the Republic of Azerbaijan increases annually by an average of 1.2 - 1.3 percent. In order to compensate for such high growth through local production, reduce dependence on imports of agricultural raw materials, it is necessary to begin reforms in the agricultural sector based on innovative development.

The concept of "security" is a factor that makes people think and worry in all periods of the evolution of human society.

At the present stage, the fourth industrial revolution has created new advanced forms of relations between countries, which has brought globalization, integration and internationalization of production to a new high level.

On the one hand, as a result of global population growth, increasing consumer needs and demand for the production of more material goods, on the other hand, a gradual decrease in natural and economic resources, the concept of economic security is born.

A number of economists believe that the theory of economic security is an insured support of interests by the state and authorities, as well as adequate provision of defense capability in the presence of unfavorable internal and external processes. Economic security implies the sum of both internal and external conditions suitable for stable, effective dynamic growth of the country's economy, as well as the ability to meet the needs of society, the state and citizens of the country.

In our opinion, economic security is, first of all, support and protection of the country's interests, characterized by the conditions for maintaining the economic independence of the state, maintaining the ability to make decisions related to the development of the economy, protecting the level and quality of life achieved by citizens of the country, and subsequently increasing it. A number of researchers group the threshold values of economic security indicators by production areas, the level and quality of life

of the population, and financial situation. Academician Z. A. Samedzade in his study compares the content of economic security with GDP, its dynamics and condition, the ratio of investments to GDP, the poverty level, average life expectancy, the ratio of the population with the highest ten percent of income to the population with the lowest ten percent of income, the unemployment rate by international standards, annual inflation, the ratio of public debt to GDP, the ratio of external debt to GDP, the ratio of imports to GDP [2].

At the same time, it is important to note that the regulatory documents on the state strategy on economic security of the Republic of Azerbaijan do not provide a clear definition of this concept, which is a guarantee of the country's security. Article 17.1 of the Law of the Republic of Azerbaijan on the security of the country states that the security of the Republic of Azerbaijan in the economic sphere is protection from internal and external factors that threaten the development of the country's economy and the economic relations of the Republic [1].

The concept of security is originally and logically associated with the strengthening of statehood. With this in mind, it is advisable to consider economic security as a system of relationships consisting of various levels, such as international, national, regional, as well as the level of an individual economic entity.

International security means such a position of the world economy where circumstances are created for mutually beneficial cooperation between various countries in solving their own and global economic problems, freely choosing and implementing their chosen development strategy.

National economic security is understood as the ability of the economy to operate in the mode of wide reproduction, rational structure of foreign economic activity, high scientific potential, development of a legal mechanism for preventing criminalization of processes, sufficient standard of living of citizens and reflects a system of indicators that ensures the necessary state regulation.

Economic security at the enterprise is characterized by such a state of the enterprise that ensures the efficient use of capital, high quality of management and risk management.

It is believed that the term food safety was born in 1974. For the first time, the terminology "food security" was reflected in the "Universal

Declaration on the Eradication of Hunger and Malnutrition" adopted by the UN in 1974.

Food security deficit is chronic, especially in developing countries, due to the low level of development of these countries, limited budgetary funds, weak application of innovative technologies in the agricultural sector, low purchasing power of the population, low competitiveness of the local volume of food production and other related factors.

According to FAO, the number of people suffering from chronic hunger in the world in 2022 is 828 million people, an increase of 46 million people compared to 2020.

V.G. Agayev, considering food safety from the point of view of trade, shows that trade is the main element in achieving world food security.

On March 2, 2001, Heydar Aliyev signed a decree confirming the State Program "On Food Security of the Republic of Azerbaijan". According to this decree, security is a factor of human dignity and human rights, which means providing each person with the amount of food for a healthy and productive lifestyle [3].

Food safety is largely a macroeconomic rather than a regional problem, and it must be addressed primarily by intensifying the country's agricultural production. It should be noted that agricultural products become food products by going through the stages of distribution, exchange, processing, sale and subsequent consumption.

All stages that agricultural products go through cannot function independently of each other. These stages, combined with their direct and feedback connections, create a single, integral system. The development, constant improvement and complication of this system determined the historical course of development of human society.

For the first time, A. Smith and D. Ricardo studied the economy objectively, as a system that does not depend on the will of people, but only on certain laws. A. Smith and his followers pointed to the principles of market equilibrium and did not recognize government intervention in coordinating economic relations [13].

However, in the 1930s, the unprecedented economic crisis in capitalist countries, the instability of the economy in the USSR at the end of the 20th century and the financial crisis that began in 2008 exceeded the level of damage caused.

The Law "On Land Reform" defines the institutional foundations and rules for the implementation of land reform in Azerbaijan.

The purpose of land reform. The intention of the reform is to build land ownership ties based on the principles of economic freedom and social justice, achieve economic independence of the country, including food security, and, as a result, improve the material well-being of the Azerbaijani people.

Legislation of the Republic of Azerbaijan on land reform. The legislation of Azerbaijan on land reform consists of the Constitution, the Law on the Fundamentals of Agrarian Reform, the Land Code and other regulations.

To justify the system of factors of the agro-food market that affect the reliable provision of security of the country in modern conditions of economic management, the method of an integrated approach is used, taking into account regional characteristics of consumption or import, further distribution of products, as well as national characteristics of the promotion of the agro-food market.

The world food crisis explained the need to create self-sufficiency of states in food and support third world countries. There are different opinions among scientists and economists on the understanding of the nature of food security. Based on the theory of international trade, they believe that no country can be completely self-sufficient.

In their opinion, in accordance with the law of comparative advantages of a country, it is convenient to produce goods that are effective for the national economy and export them in exchange for goods whose comparative advantages are ineffective.

Another group of economists believes that the issue of security is the mission of the economy of each state, and therefore it should be solved by increasing self-sufficiency in products at the expense of its own resources.

The practice of developed countries shows that the essence of food security is connected with the problem of independence in food and requires economic, organizational and legal measures for its implementation. Taking into account the evolution of ideas about the problem of food security, we cannot fully support the opinion of scientists who believe that the laws of nature lead to an inevitable increase in the discrepancy between population growth and the growth of livelihoods (T. Malthus, XVIII century).





The existence of world economies and the rules of interaction dictate their own special conditions, the consequence of which is the inseparable integration and interaction of national agro-food markets. All this raises the issue of ensuring sustainable competitiveness of the agro-food market and increasing the level of security of the country's economy. Providing competitive stability and food independence sets important directions for the development of individual regions and the state as a whole, and their solution is one of the priority goals for the future. When assessing the degree of growth of the country's agricultural market in the context of economic security, it is important that the system of indicators for this assessment objectively characterizes its state at all levels, both from a national and regional point of view.

Looking at this problem, A.I. Altukhov notes that food security should characterize the degree of provision of citizens' needs for food products on the one hand, and the stability of food supply on the other. As the main indicator of economic security, one can consider the production, consumption and level of food elements per person of the population, their physical, economic security and sufficiency in terms of medical standards [17].

Analysis of the research results. The objective of the study is to identify trends in structural changes in the agro-food complex, analyze factors influencing the balance of development of the complex, and assess strategic areas for improving the structural modernization management system. The study used methods of system and comparative analysis, and the main provisions of structural analysis. The information base of the study was statistical materials. The authors' intersectoral approach to the study of structural changes in the agro-food complex, taking into account all interrelations, allows identifying new trends in its structural dynamics. The assessment of the dynamics and level of personal consumption, self-sufficiency in basic food products was carried out on the basis of annual balances of food resources for the main food groups.

The purpose of the article is an analysis of modern structural changes in the agricultural sector, their impact on the country's food security and development of ways to improve the food situation in the countries.

Presentation of the main material. The importance of the food security problem in the

national security system also lies in the fact that it is "closely linked to environmental security, since irrational agricultural activity worsens the environmental situation, which, on the one hand, hinders the growth of agricultural production as raw materials for food, and on the other hand, leads to the production of products contaminated with various toxic substances." In any case, solving the food problem in the country is complicated either by a reduction in the population's food supply or by the negative impact on its health, life expectancy, etc. Thus, "food security is the most important element not only of the state's economic security, but also of its political and environmental security, determining the leading role of food security in national security" [5].

The state's attention should be focused on financing and mastering promising technologies and developing fundamental research in the field of agribusiness. There is a need to develop a concept for creating a food strategic reserve in the country in order to guarantee the population's food supply.

In the successful organization of agrarian policy in our republic, the role of structural reforms carried out in agriculture is great, which involve the establishment of optimal relationships between the structures of the economic system that make up this structure, and fundamental changes in it, leading to an increase in the efficiency of agricultural production. Structural changes lead, first of all, to the creation of a new economic system.

When implementing changes in the sector, it is necessary to take into account such factors as the seasonality of the economy, the dependence of crop and livestock production on weather conditions, the low investment attractiveness of agricultural production, etc.

As can be seen from Table 1, in 2007, grain crops accounted for 50.9%, industrial crops - 6.6%, potatoes and vegetables - 12.7%, and forage crops - 20.9% of the total share of cultivated land. In 2007-2021, the share of grain crops increased from 739.6 thousand hectares to 998.7 thousand hectares, the sowing area of industrial crops increased from 96.1 thousand hectares to 122.0 thousand hectares, and the sowing area of potatoes and vegetable crops decreased from 184.7 thousand hectares to 144.6 thousand hectares, and the sowing area of forage crops increased from 303.5 thousand hectares to 369.9 thousand hectares (Table 2).

Table 1 – Area of sowing of agricultural crops, thousand hectares

Of the year	Summary	Cereals and pulses		Industrial crops		Potatoes, vegetables and melons		Forage crops		Perennial plantings	
		Square	%	Square	%	Square	%	Square	%	Square	%
2007	1,452,1	739,6	50,9	96,1	6,6	184,7	12,7	303,5	20,9	128,2	8,8
2010	1,727,6	968	56	52,6	3	178,8	10,3	384,5	22,3	143,7	8,3
2015	1,746,6	952,1	54,5	38,7	2,2	166	9,5	428,6	24,5	161,2	9,2
2020	1,861,8	989,1	53,1	122	6,6	143,6	7,7	376,2	20,2	233,1	12,5
2021	1,873,0	998,7	53,3	122	6,5	144,6	7,7	369,9	19,7	237,8	12,7

Source: [11]

Table 2 – Dynamics of agricultural production

The product's name	Of the year				
	2007	2010	2015	2020	2021
Cereals and pulses	2004,4	2000,5	2999,4	3257,1	3363
Cotton	100,1	38,2	35,2	336,8	287
Tobacco	2,9	3,2	3,5	6,9	6,4
Potato	1037,3	953,7	839,8	1037,6	1062
Vegetable crops	1227,3	1189,5	1275,3	1738,9	1815,5
Forage plants	417,6	433,6	484,5	448,1	459,9

Source: [11]

A significant increase in the area under grain crops by 259.1 thousand hectares in 2007-2021, grain production for this period also increased by 1358.6 thousand tons according to Table 2.2. During this period, along with an increase in the area under industrial plants, potatoes and vegetables, forage plants, their productivity also increased. But the indicators were different in the first half of the 20th century. Thus, in the 60s of the 20th century, the agricultural sector, one of the leading sectors of the country's economy, was in crisis. According to statistics, in 1969, 574 thousand tons of grain, 299 thousand tons of cotton, 52 thousand tons of fruits, 372 thousand tons of vegetables, 24.5 thousand tons of tobacco, 113 thousand tons of potatoes and other agricultural products were produced. During this time, the yield of important agricultural products was low and the productivity of grain and legume crops was 9.5 centners per hectare, cotton 15.1 centners, vegetables 120.0 centners, grapes 43.6 centners, fruits 10.4 centners, tobacco 18.0 centners, potatoes 79.0 centners. The situation was worse in animal husbandry, which is one of the priority sectors of agriculture, here productivity decreased, and the cost of the product increased. In the process of implementing the main principle of liberalization of market relations in the agro-food complex, researchers distinguish two stages:

- The stage of implementation of methods called "shock therapy" of the market mechanism (1992-1995);

- An attempt to improve the current financial and economic situation in the country as a whole and in the agricultural sector (1996-2000).

At the first stage of implementing liberal principles of economic management, such basic principles as liberalization of prices and foreign economic activity, nationalization of land and collective farm property were defined and consistently implemented. At the next stage, several attempts were made to implement a number of national protectionist measures in order to protect agricultural enterprises from bankruptcy. The result of the national agrarian policy based on liberal economic principles was a sharp decrease in the volume of production of most agricultural products.

Having conducted a comparative analysis of the considered definitions of food security, we can highlight the following features:

1) sufficient supply of food on the domestic market, including imports;

2) effective solvent demand and adequate distribution and consumption of food;

3) stability of the national food system, minimizing the impact of various endogenous and exogenous fluctuations on the situation on the domestic food market.





It should be noted that "when determining the efficiency of food production, it is necessary to (Figure 1):

- take into account the sectoral characteristics of agriculture, increasing the economic fertility of the land, the ratio of the increase in the volume of production and net income per unit of land area and head of cattle;
- ensure that technical progress is brought to the creation of a system of machines for the comprehensive mechanization and automation of production, ensuring the maximum output of

high-quality products and a decrease in the costs of total (live and embodied) labor with a minimum amount of costs of functioning production assets;

- assess 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 must be in an optimal, balanced combination" [11].

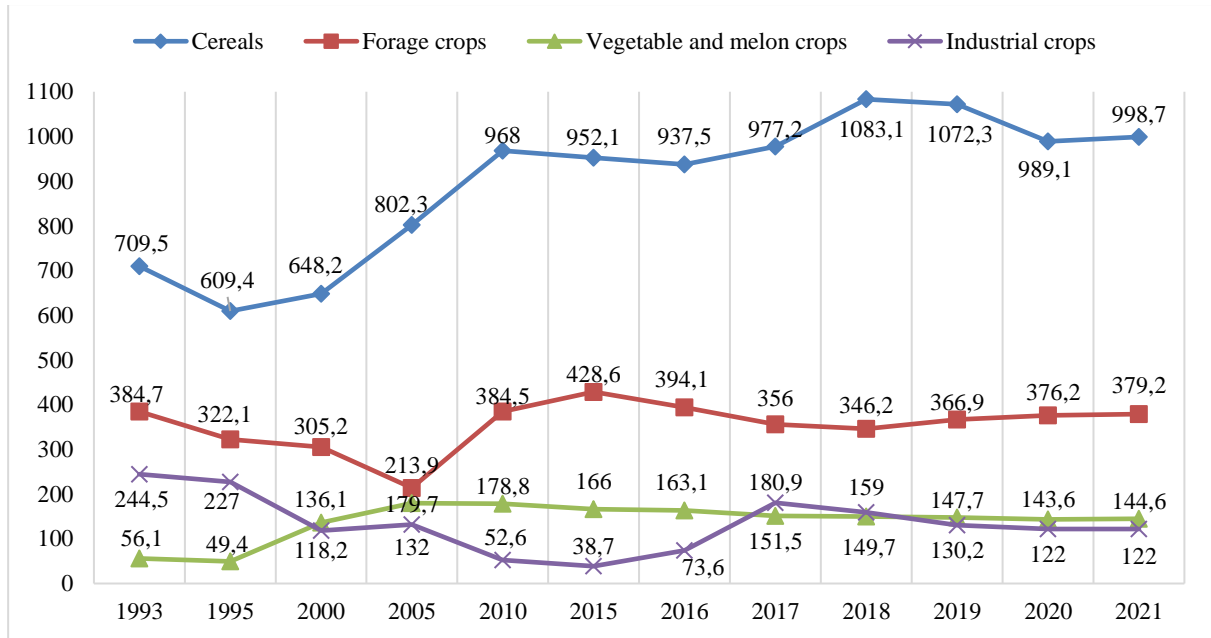


Figure 1 – Total sown area of the Republic of Azerbaijan
Source: developed by the authors by [11]

The reduction of forage crops had a negative impact on livestock farming as a whole, along with a number of factors of that time. The suitability of land plots decreased annually, amounting to 1394.8 thousand hectares in 1993, 1041.5 thousand hectares in 2000, and 1327.0 thousand hectares in 2005. In particular, the sowing areas of plant crops decreased from 709.5 thousand hectares in 1993 to 648.2 thousand hectares in 2000, the sowing areas of industrial crops decreased from 244.5 thousand hectares in 1993 to 118.2 thousand hectares in 2000, and the sowing areas of forage crops over the same period decreased from 384.7 thousand hectares to 139.0 thousand hectares.

Thus, the solution to the issue of food security is a strategically important task for any state, regardless of its socio-economic system and level of development. However, approaches to solving this problem, principles of economic, foreign trade and agricultural policies are far from the same. Completely different problems

can be hidden under a common name, hence there are different ways for individual states or groups of countries to solve domestic and foreign economic problems of food security.

In our opinion, in its most general and universal content, food security is formed as a certain vector of movement of any national food system to its ideal (normative) state. Thus, if the food policy of the leading countries of the world, aimed at ensuring food security, has already been formed, then countries with a transformational economy have encountered specific problems in this area. Thus, with all the general features of the transition period, each state solves economic problems, including food security problems, based on national interests and capabilities (Table 3).

Since 2006, the sown areas of agricultural plants in our country, as a rule, began to increase.

Table 3 – Cultivated areas of agricultural crops, thousand hectares

Of the year	Total	Cereals	Industrial crops	Vegetable and melon crops	Forage crops
1993	1 394,8	709,5	244,5	56,1	384,7
1995	1 207,9	609,4	227,0	49,4	322,1
2000	1 041,5	648,2	118,2	136,1	139,0
2003	1 219,5	776,3	88,9	164,3	190,0
2004	1 293,8	814,9	98,3	174,3	206,3
2005	1 327,9	802,3	132,0	179,7	213,9
2010	1 583,9	968,0	52,6	178,8	384,5
2015	1 585,4	952,1	38,7	166,0	428,6
2016	1 628,3	997,5	73,6	163,1	394,1
2019	1 717,1	1 072,3	130,2	147,7	366,9
2020	1 630,9	989,1	122,0	143,6	376,2
2021	1 644,5	998,7	122,0	144,6	379,2
2021/1990	112,4%	171,1%	43,2%	193,5%	72,6%
2021/2005	123,8%	124,4%	92,4%	80,46%	177,2%
2021/2015	103,7%	104,8%	315,2%	87,1%	113,0%

Source: [11]

As can be seen from Table 2.3, in 2021, the sown area of agricultural plants increased by 316.6 thousand hectares compared to 2005 and amounted to 1644.5 thousand hectares. Over the period from 2005 to 2021, suitable areas increased to 998.7 thousand hectares, the sown

areas of forage crops increased by 165.3 thousand hectares to 379.2 thousand hectares, and the areas of industrial crops decreased by 10.0 thousand hectares, amounting to 122.0 thousand hectares, this trend also continued in the sowing of potatoes (Figure 2).

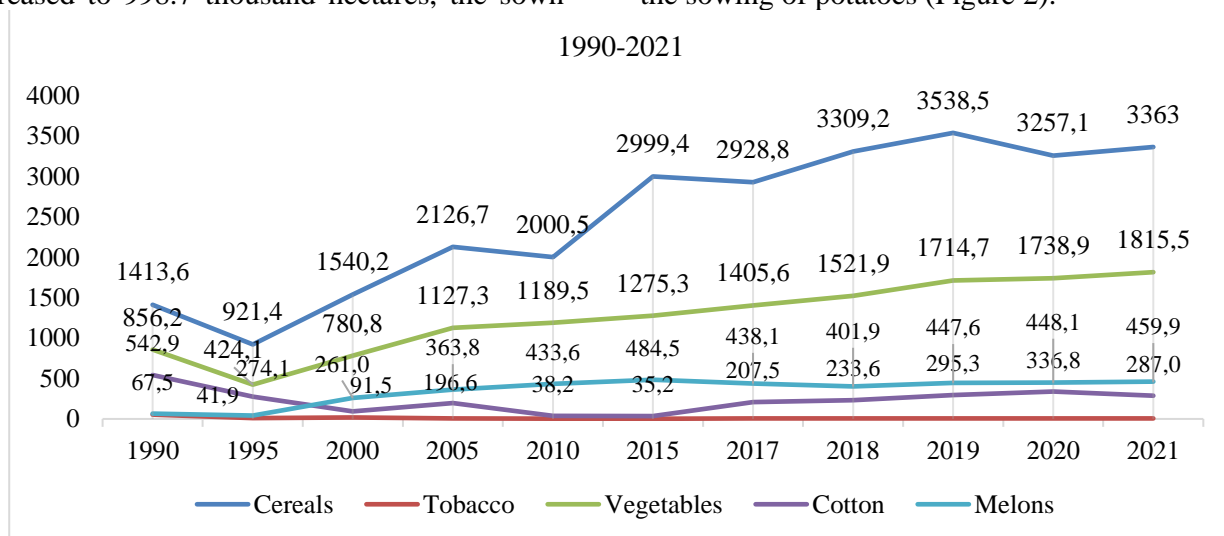


Figure 2 – Sown areas of agricultural crops, thousand hectares

Source: developed by the authors by [11]

The growth in agricultural production and food production has helped stabilize the situation in the national food market. An analysis of the structure of food balances in 2020 and indicators of the level of self-sufficiency in basic food products by region has allowed us to conclude that the food supply is stable. In the context of destabilizing factors and restrictions, the personal consumption fund of

basic food products in 2020 remained unchanged or grew for a number of products. For example, the increase in the consumption fund of meat and meat products amounted to 1.1%, milk and dairy products - 2.7%. Due to the completion of large-scale investment projects in poultry and pig farming, the growth of support for national livestock farming in 2020, the country's self-sufficiency in meat and meat



products, milk and dairy products significantly increased.

Substantiation of priority areas for increasing the competitiveness of the national agro-food complex based on the modernization of the inter-industry structure taking into account new challenges and threats made it possible to assess the possibilities of including national commodity producers in global value chains. This is the basis for determining the areas of inter-industry balance, identifying the

multiplier effects of government support options. Inclusion of the agro-food complex in the global economy based on its long-term competitive advantages will ensure the formation of inter-industry multiplier effects for the growth of the domestic food market, expanding access to global resources and technologies.

The increase in suitable areas led to an increase in crop production in our country in the period 2003-2021 (Table 4).

Table 4 – Crop production, thousand tons, 1990-2021

Years	Cereals	Cotton	Tobacco	Vegetables and fruits	Melons and legumes
1990	1413,6	542,9	52,9	856,2	67,5
2005	2126,7	196,6	7,1	1127,3	363,8
2010	2000,5	38,2	3,2	1189,5	433,6
2015	2999,4	35,2	3,5	1275,3	484,5
2018	3309,2	233,6	6,3	1521,9	401,9
2019	3538,5	295,3	6,0	1714,7	447,6
2020	3257,1	336,8	6,9	1738,9	448,1
2021	3363,0	287,0	6,4	1815,5	459,9
2021/1990	237,9%	52,8%	12,1%	212%	681,3%
2021/2005	158,1%	145,9%	90,1%	161%	126,4%
2021/2015	112,1%	815,3%	182,8%	142,3%	94,9%

Source: [11]

As can be seen from the data in Table 4, the highest output of agricultural products is observed in grain crops, which accordingly provides the opportunity to provide the country with strategic types of products.

Regionalization of the processes of achieving and maintaining food security presupposes “coordination of elements of trade, and then elements of production and investment policy for the development of national food complexes, up to the joint determination of quotas for the production of basic types of food in countries, based

on the needs of the region as a whole, uniform standards for food products and agricultural raw materials for their production, and similar consumption patterns” [5].

As shown in Table 5, in 2021, the sowing of agricultural crops is 32.8 c/ha, cotton - 28.5 c/ha, potatoes - 184.0 c/ha, vegetables - 190.0 c/ha, melons and gourds is 228.0, which respectively indicates an increase of 6.2 c/ha, 13.5 c/ha, 60.0 c/ha, 50.0 c/ha, 116.0 c/ha compared to 2003, and the tobacco yield decreased by 1.1 c/ha.

Table 5 – Yield of agricultural crops, cent/ha: 100 kg/ha

Years	Cereals	Cotton	Tobacco	Potato	Vegetables	Melons
2003	26,6	15,0	22,4	124,0	140,0	112,0
2005	26,5	17,5	25,7	149,0	140,0	121,0
2010	20,7	12,7	24,0	145,0	142,0	137,0
2014	24,0	17,9	25,8	133,0	152,0	157,0
2015	31,5	18,8	25,4	136,0	158,0	174,0
2019	32,1	29,5	19,3	169,0	176,0	209,0
2020	31,8	33,6	22,1	174,0	188,0	224,0
2021	32,8	28,5	21,3	184	190	228
2021/2003	123,3%	190%	95,0%	148,3%	135,7%	203,5%
2021/2010	158,4%	224,4%	88,7%	126,8%	133,8%	166,4%
2021/2015	104,1%	151,5%	83,8%	135,2%	120,2%	131,03%

Source: [11]



Another leading area of the agricultural sector is animal husbandry. In terms of structure, the basis of the country's livestock farming is poultry farming, cattle breeding, sheep and goat farming, pig farming, etc. The distribution of

production by these types of products is shown in Figure 3.

In the first years of independence of the Republic of Azerbaijan, the livestock sector of agriculture began to decline in 1991-1995 (Table 6).

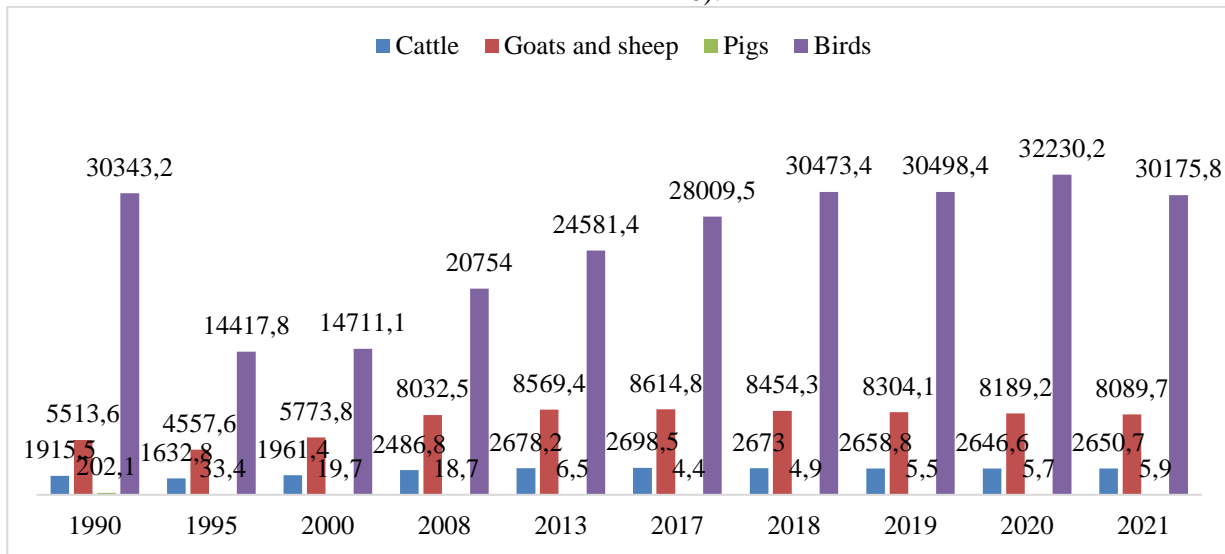


Figure 3 – Number of animals and birds

Source: [11]

Table 6 – Production of livestock products, 1990-2020

Of the year	Total	Beef	Lamb and goat meat	Pork	Poultry meat	Milk (thousand tons)	Eggs (million units)	Wool (thousand tons)
1990	175,5	73,9	35,4	12,6	53,6	970,4	985,3	11,2
1991	153,5	62,5	33,0	8,8	49,2	947,7	958,2	10,5
1993	118,3	56,5	33,0	3,4	25,4	798,5	584,5	9,7
1995	109,4	55,0	32,5	2,8	19,1	826,5	455,8	9,0
2000	153,6	78,4	49,5	1,4	24,3	1031,1	542,6	10,9
2015	298,6	129,8	70,9	0,7	97,2	1924,5	1552,9	17,0
2017	316,8	132,9	79,1	0,5	104,3	2024,1	1714,0	16,0
2018	326,0	135,6	80,8	0,5	109,1	2080,4	1676,2	15,8
2019	335,7	137,9	85,3	0,5	112,0	2150,8	1827,1	16,1
2020	346,0	143,1	87,0	0,5	115,4	2192,5	1906,2	16,1
2021	357,6	145,0	87,7	0,5	124,4	2223,4	1838,8	16,1
2021/1993	302,2%	256,6%	265,7%	14,7%	489,7%	278,4%	314,6%	165,9%
2021/2003	192,6%	157,6%	160,8%	23,8%	332,6%	190,39%	269,6%	133,0%
2021/2015	119,7%	111,7%	123,7%	71,4%	127,9%	115,5%	118,4%	94,7%

Source: [11]

As a result of reforms in agriculture, the form of sown areas has changed, the number of livestock has increased and, accordingly, the volumes of production of both plant and livestock food products entering the consumer market have increased significantly compared to previous years.

In order to form a normal agrarian and food market in Azerbaijan, it is advisable to take

as a basis the task of achieving a greater volume of self-sufficiency (Table 7). The implementation of the goal creates the need to combine the efforts of producers and the state in the direction of increasing production potential, improving the system of their transportation, sale and storage, establishing effective relations with foreign partners, as well as with international organizations.



Table 7 – Consumption of basic types of products per capita, per year, kg

Product	2015	2016	2018	2019	2020	2021	2021 vs 2015 %
All types of meat and meat products	33,5	36,5	39,8	40,8	40,8	41,2	122,9
Fermented milk products	246,2	236,2	240,2	246,3	257,6	253,3	102,8
Eggs (pieces)	154	156	153	165	175	170	110,4
Sugar	21,7	24,4	25,3	26,3	26,9	27,3	125,8
Vegetable oils	12,6	15,9	15,1	16,1	15,3	9,4	74,6
Potato	71,6	74,9	73,5	82,2	83,3	84,2	117,6
All kinds of vegetables	110,4	105,1	112,9	127,7	134,1	138,2	125,1
Fruits and berries	72,7	70,4	74,2	80,4	87,4	83,7	115,1

Source: [11]

It is possible to satisfy consumer demand for basic types of food per capita in our country through the production of local agricultural products. To assess the dependence of the agro-food market of the Republic of Azerbaijan on imports, we will consider the import of the necessary types of agricultural products and determine the level of self-sufficiency for these products.

Table 8 shows the levels of self-sufficiency of the Republic of Azerbaijan in the main types of agricultural products. The data in

the table show that in 2021, compared with 2015, the level of self-sufficiency in wheat increased to 61.5%, the level of self-sufficiency in vegetables rose from 103.4% to 106.6%, the level of self-sufficiency in fruits and berries from 113.7% to 122.9%, the indicator for fish and fish products reached 78.2%, and for tea from 40.2% to 89.5%. The level of self-sufficiency in these products is due to the increase in the production volumes of agricultural and basic types of food products over the corresponding period (Table 8).

Table 8 – Level of self-sufficiency in the main types of agricultural products, %

№	Product	2017	2018	2019	2020	2021	2022
1.	Wheat	54,8	58,1	64,8	57,2	57,1	61,5
2.	Potato	89,1	89,2	90,8	87,8	90,6	88,8
3.	Vegetables (all types)	103,4	115,2	115,0	112,0	110,4	106,6
4.	Fruits and berries	113,7	122,4	123,2	123,1	116,3	122,9
5.	Fermented milk products	84,3	86,1	86,7	86,3	83,5	84,8
6.	Eggs	99,7	100,5	101,5	101,8	100,0	99,1
7.	Flour (all types)	95,1	96,0	95,9	95,6	95,4	95,0
8.	Sugar	192,9	60,6	81,7	75,0	69,4	100,7
9.	Sugar products	17,8	29,6	25,6	29,8	30,7	34,2
10.	Beef	91,8	86,3	85,1	86,1	87,4	91,9
11.	Sheep and goat meat	99,3	98,0	98,1	97,6	97,3	98,2
12.	Poultry meat	98,6	79,7	75,9	74,6	79,0	79,6
13.	Fish and fish products	77,6	81,2	83,1	82,2	81,7	78,2
14.	Butter	69,2	71,0	71,3	69,5	62,7	66,7
15.	Vegetable oil	60,5	37,1	34,3	33,6	34,8	73,2
16.	Margarine	292,2	101,5	98,8	98,2	98,6	99,6
17.	Pasta	53,2	48,0	28,7	24,7	42,3	47,2
18.	Tea	40,2	47,7	44,6	43,7	45,5	89,5

Source: [11]

Also, the analysis of data 8 shows that the level of self-sufficiency has decreased in some types of products. In 2021, compared with 2017, the level of self-sufficiency in potatoes decreased by 0.3% and reached 88.8%, eggs also showed a downward trend and reached 99.1%,

flour decreased to 95.0, goat, sheep and poultry meat decreased by 1.1 and 19, respectively. The level of self-sufficiency in butter and margarine also decreased by 2.5% and 192.6%, while reaching 66.7% and 99.6%, respectively. Important indicators of food security and the value



of their limit for grain and potatoes are 95% and above, 80% and above for dairy products, 95% and above for meat and meat products, 70% and above for vegetable oil and fish products. As a result of structural changes in agriculture and the impact of agrarian reforms over the past decade, the total output of the agricultural sector in actual prices has increased. Based on the above data, it can be argued that the growth rate of agricultural enterprises is twice as fast as the growth rate of all categories of agriculture, while the growth rate of individual entrepreneurs is somewhat behind. The agricultural reforms carried out in our country to provide the country with basic food products have created favorable conditions for the development of the agricultural sector.

With the support of the state, such measures as the creation of farms for the reproduction of pedigree animal breeds, the development of livestock projects for women who have lost the head of the family, the allocation of pedigree animals for the development of sheep breeding, the development of beekeeping, the creation of cooperatives and farms for breeding cattle suitable for pastures can be implemented.

The agro-food market provides various groups of the population with food products in accordance with their needs, and this process is regulated by market relations. The main component of the agro-food market is the agricultural sector, which is an important part of the national economy of the country. Agriculture, production and processing of food products is a deep system that depends on the impact of external and internal factors. Providing the agro-food market with a sufficient amount of food products for the population of the republic is an important part of the state's agricultural policy.

Research shows that the dependence of agro-food market companies on large buyers is estimated as average. Most of the income of companies that import and produce agro-food products comes from both small and large buyers. It should be noted that ¼ of companies (one quarter) declare their dependence on large buyers, and this dependence is manifested in all segments of the agricultural sector, in agriculture, livestock and processing.

The agricultural sector is the main sector of the country's national economy, and according to 2021 statistics, it accounts for 5.9% of GDP. According to statistics for 2021, the number of people employed in the country is 4888.2 thousand people, of which 1809.9 thousand people or

36.3% are employed in agriculture. Considering that the country's population in 2021 will be 10,119.1 thousand people, 4760.6 thousand people or 47.0% of the population live in rural areas, it can be seen that the agricultural sector is of great importance for the country from a socio-economic point of view.

Conclusion and prospects for further research. The application of the methodology of inter-sectoral management to the assessment of the parameters of the structural balance of the agro-food complex, the structure of the export potential, ensuring the accelerated growth of non-grain exports with a high share of added value, the possibilities of including national producers in global value chains creates the basis for scenario modeling of competitiveness growth trends, substantiating the strategy for the development of the complex, and forecasting the directions of its state support.

Substantiation of priority areas for increasing the competitiveness of the national agro-food complex based on the modernization of the inter-sectoral structure taking into account new challenges and threats made it possible to assess the possibilities of including national producers in global value chains. This is the basis for determining the directions of inter-sectoral balance, identifying the multiplier effects of state support options.

The inclusion of the agro-food complex in the world economy based on its long-term competitive advantages will ensure the formation of inter-sectoral multiplier effects for the growth of the domestic food market, expanding access to global resources and technologies. The implementation of the opportunities for multi-vector development of the agro-food complex, self-sufficiency in many basic food products and growth in export volumes will allow countries to take a place in the system of international division of labor that corresponds to their competitive potential.

Thus, consideration of the role of food security in the system of economic and national security indicates the growing importance of the agro-food sector. Without solving the food problem, it is impossible to achieve a sustainable improvement in the quality of life of the population.

It is the quality of life that characterizes the development of the state and the people. In light of this, ensuring food security should be considered as one of the main areas for improving the standard and quality of life of the population of any state and an important prerequisite for ensuring sustainable economic and demographic growth.





In our opinion, in order to implement a comprehensive goal-setting approach to the development of national food policy and ensuring food security of the country, "it is necessary to move away from the policy of fragmentary formation of legislation on this issue, to form and adopt a package of interrelated regulatory and legal acts of varying legal force, designed for different time horizons of forecasting and state regulation of the country's food complex." Regionalization of the processes of achieving and maintaining food security presupposes "coordination of elements of trade, and then elements of production and investment policy for the development of national food complexes, up to the joint determination of quotas for the production of basic types of food in countries, based on the needs of the region as a whole, uniform standards for food products and agricultural raw materials for their production, and similar consumption patterns." Ensuring food security and growth in food production will, in our opinion, strengthen food independence, and their guarantee is the key to the country's authority in the international arena. Food security is, ultimately, food security and balanced nutrition of its population. All of the above once again clearly confirms the urgent, insistent and absolute need for radical changes both in the entire socio-economic policy and in its agrarian component.

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