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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

**DIRECTIONS FOR REGULATION OF THE SYSTEM OF
ECONOMIC RELATIONS IN THE FOOD INDUSTRY (ON
THE EXAMPLE OF MEAT AND MILK PROCESSING
ENTERPRISES)**

Speciality: 5312.01 – Field economy

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GENERAL CHARACTERISTICS OF THE RESEARCH

Relevance and degree of development of the topic. Ensuring the country's national food security is one of the priority tasks of state policy and depends on the efficiency of the activities of various production sectors of the food industry. Because, it is impossible to form and develop the country's food market without developing the food industry. In this regard, ensuring the development of the food industry on the basis of new technologies allows for the creation of strategic food reserves. In addition, to ensure the accessibility of food products to the population, regulation of local food markets is required. The state of food markets depends on the range of highly processed products in its structure and, accordingly, their specific weight. It should also be taken into account that both the improvement of the standard of living and the healthy life of the population depend on the volume of food production, their variety, quality and price. Therefore, the food industry is classified as one of the strategic and socially important sectors in the system of the country's economic complex.

It is from this perspective that meeting the country's population's demand for a wide range of food products requires special attention and care to be paid to the development of this area. In order to improve the satisfaction of the country's population's demand for food products, the "State Program on Reliable Provision of the Population with Food Products in the Republic of Azerbaijan in 2008-2015" was approved by the Decree No. 3004 of the President of the Republic of Azerbaijan, Mr. I.H. Aliyev, dated August 25, 2008. One of the main goals of the State Program is to increase meat production to 340 thousand tons and milk and dairy products to 2.4 million tons in 2015.¹ However, the shortcomings in agriculture and the inefficient use of production resources did not allow achieving the set goal. According to the State Statistical Committee of Azerbaijan, in 2015, meat production amounted to 298.6 thousand tons, and milk and dairy products

¹ "State Program on Reliable Provision of the Population with Food Products in the Republic of Azerbaijan in 2008-2015". Decree of the President of the Republic of Azerbaijan dated August 25, 2008. URL: <https://e-qanun.az/framework/15320>

production amounted to 1.9 million tons. Thus, in 2015, meat production accounted for 87.8% of the set goal, and milk and dairy products production accounted for 79.2%.

In order to ensure the rapid development of agriculture and processing industries, the “Strategic Road Map for the Production and Processing of Agricultural Products in the Republic of Azerbaijan” was approved by the Decree of the President of the country dated December 16, 2016. This road map defines specific goals and objectives for ensuring the development of the sector.² Over the past period, agricultural production has increased, and the population's demand for food and food products has been more fully met, and thus the quality of life of people has been further improved to some extent. However, the existing problems, the fact that the domestic market is still dependent on imports, the high demand for high-quality and environmentally friendly food products and high prices, and the inability of all food industry enterprises in the sector to fully utilize their production capacity, indicate that there are still many problems in this area. Our research shows that in order to develop the sector, there is a need to regulate the system of economic relations with other enterprises in order for the enterprises operating in this sector, including meat and milk processing enterprises, to continue their activities effectively. Otherwise, that is, leaving the development of the sector entirely to the market mechanism, may result in the decline of this strategically important sector, the strengthening of the dependence of our country's meat and dairy market on international markets for relevant products, and a decrease in the level of ensuring the country's food security. To avoid such negative impacts, the system of economic relations with farms that are raw material producers for meat and dairy processing enterprises should be regulated and the balanced development of enterprises and farms operating on a contractual basis as a whole should be ensured.

² Strategic Roadmap for the production and processing of agricultural products in the Republic of Azerbaijan. Approved by the Decree of the President of the Republic of Azerbaijan dated December 6, 2016. [URL:https://mida.gov.az/documents/strateji_yol_xeritesi_kend_teserrufati_mehsullarinin_istehsalina_ve_emalina_dair.pdf](https://mida.gov.az/documents/strateji_yol_xeritesi_kend_teserrufati_mehsullarinin_istehsalina_ve_emalina_dair.pdf)

Currently, the meat and meat products, as well as milk and dairy products segment of the food market of our country has a greater growth potential than other segments of this market. This is due to the fact that the population's demand for these products is not fully met, and this situation has been going on for many years. In order to ensure a healthy and active lifestyle for people in our country, the per capita consumption of meat and meat products should be increased by more than 2.1 times, and the consumption of milk and dairy products by more than 1.5 times. To achieve this goal, it is necessary to create new meat and milk processing enterprises in various regions of the country, including in liberated Karabakh, their activities should be protected and stimulated by the state, and the system of economic relations of these enterprises with other enterprises should be regulated. All this indicates that the topic of the dissertation is relevant and its development is important both from a scientific-theoretical and practical point of view.

Among the scientists of our country, Z.A. Samadzade, E.A. Guliyev, I.H. Ibrahimov, I.H. Aliyev, B.Kh. Atashov, F.V. Guluyev, E.R. Ibrahimov, V.H. Abbasov, H.A. Khalilov, T.N. Aliyev, E.A. Guliyev, H.A. Israfilov and others have conducted a number of studies on the regulation of the system of economic relations of the agricultural sector and food industry enterprises.

Foreign scientists Antsiferova O.Y., Baybakova T.V., Gnatovskaya Y. S., Egan John, Ilina L. A., Kyek Z. N., Makarevich L. O., Ulezko A. V., Richard L. Kolz, Sovetov P. M., Yunusova P. S., Porter M. E., Bogomolova I., Kotarev A. and others have paid special attention to the regulation of the system of economic relations in the food industry, including the economic relations of enterprises producing meat and meat products, milk and dairy products, and have conducted valuable research.

Despite the fact that numerous studies have been conducted on the selected topic, in the conditions of market relations, where management has radically changed and risen to a qualitatively new level, there is a constant need to regulate the system of economic relations of food industry enterprises in our country, which necessitates conducting research from a new perspective.

Object and subject of the study. The food industry, including meat and dairy processing enterprises, is the object of the study. The methods and means used to regulate the system of economic relations in meat and dairy processing enterprises are the subject of the study.

The purpose and tasks of the study. The purpose of the study is to study the theoretical foundations of the regulation of activities in the food industry, analyze the current state of the system of economic relations in the field, and determine the directions of regulating the system of economic relations on the example of meat and dairy processing enterprises.

To achieve the set goal, the following tasks were identified and implemented:

- determination of the development characteristics of food industry enterprises;
- study of the theoretical foundations of the regulation of meat and milk processing;
- analysis of the location of meat and milk processing enterprises by region and the integration relations between their raw material producers and processing enterprises;
- classification of factors affecting the market activity of meat and milk processing enterprises in this sector, as well as the integration relations between these enterprises and raw material producers;
- analysis of the current state of regulation of the system of economic relations of meat and milk processing enterprises and determination of directions for regulation;
- justification of the necessity and economic importance of organizing meat and milk clusters.

Research methods. The theoretical basis of the dissertation work is the works of well-known local and foreign experts in the field of regulation of the system of economic relations of the food industry and meat and dairy processing enterprises of this field. When writing the dissertation work, laws and regulatory and legal documents regulating the activities of the food industry and processing enterprises operating in this field, as well as state programs, were used. During the research, complex and systemic approaches, the balance method, economic and

statistical analysis, induction and deduction methods were used.

Also, during the research, reports from the State Statistical Committee, the Ministries of Agriculture and Economy, Scientific Research Institutes and Research Centers, research conducted by local and foreign scientists in this field, data from enterprises operating in the food industry, and data collected during marketing observations were used.

The main provisions put forward for defense. Taking into account the scientific innovations obtained from the dissertation research, the following main provisions are put forward for defense:

- The specific features of the development of the food industry have been studied and there is a need to regulate the system of economic relations in this area;
- The effective development of the food industry requires the identification of the discrepancy between the raw material base and the location of processing enterprises in the regions and a scientifically substantiated solution to this problem;
- Constant attention should be paid to the identification of economic problems that manifest themselves in the development of the meat and dairy industry and ways to solve them;
- One of the important conditions is the identification of factors affecting the market activity of meat and dairy processing enterprises, as well as the formation of cooperation and integration relations of these enterprises;
- In the conditions of new economic relations, there is a need to expand cooperation and integration relations between raw material producers and meat and dairy processing enterprises and improve their management;
- It is required to develop a methodology for organizing meat and dairy clusters in the food industry and its enterprises.

The scientific novelty of the study. The scientific novelty of the research work consists of the following:

- The main systemic problems of the meat and dairy industry have been identified and directions for their solution have been given;
- The discrepancy between the development of the raw material

base and the location of processing enterprises in the regions has been identified and directions for solving this problem have been scientifically substantiated;

- The possibilities of regulating relations between meat and dairy processing enterprises and livestock farms on the basis of cooperation-integration relations in accordance with modern market activity have been identified;
- The creation, regulation and improvement of cooperation and integration relations between raw material producers and meat and dairy processing enterprises have been scientifically substantiated;
- The directions of state regulation of inter-sectoral relations of the meat and dairy processing industry and the need for their improvement have been indicated;
- A methodology for organizing meat and dairy clusters has been developed.

Theoretical and practical significance of the research. The theoretical significance of the dissertation is that the application of the developed proposals on the regulation of the system of economic relations in the food industry can give impetus to the rapid development of both the food industry and individual sectors of agriculture, which act as a raw material base for this industry. As a result, the locomotive role played by food industry enterprises for agricultural enterprises and farms can be strengthened, the level of ensuring the country's food security can be increased, and the needs of different segments of the population for a wide range of food products can be more fully met.

The materials of the study can be used in future programmatic documents to be developed for the development of the food industry, as well as in the training of qualified personnel in the relevant field, which determines the practical significance of the study.

Approval and application. The main provisions and main results of the dissertation, consisting of 3 theses (1 of which was published abroad) and 5 articles (1 of which was published abroad), have been reflected in authoritative local and foreign publications recommended by the Higher Attestation Commission, as well as in the materials of

scientific and practical conferences of republican and international importance. The author's theses entitled “Systematic features of the national economy” (Baku-2019), “Directions of regulating the system of economic relations in the food industry” (Sweden-2023), “Features of the economic development of the meat and dairy processing industry” (Sumgayit-2023); also published articles entitled “Ways to improve the criteria for economic statistical assessment in the fields of the agro-industrial complex” (Baku-2017), “Development priorities of food industry sectors” (Baku-2020), “Analysis of factors influencing the market activity of meat and dairy processing enterprises” (Baku-2023), “Current state and prospects for development of the meat and dairy industry in Azerbaijan” (Romania-2023), “Improving the efficient use of labor resources in the development of the agricultural processing industry” (Baku-2025).

Name of the organization where the dissertation was carried out. Agrarian Research Center under the Ministry of Agriculture of the Republic of Azerbaijan.

Total volume of the dissertation with a mark indicating the volume of the structural sections separately. The dissertation consists of a title, table of contents, introduction (12056), three chapters - the first chapter (85019), the second chapter (83700), the third chapter (51805), conclusion (16390), and a list of sources and literature, with a total volume of 293663 characters. Excluding the list of literature, diagrams, schemes and tables, the dissertation is 248970 characters long.

SUMMARY OF THE RESEARCH

The **introductory** part of the dissertation work explains the relevance and degree of development of the research topic, the object and subject of the research, the goals and objectives of the research, the methods, the main provisions put forward for defense, the scientific novelty of the research, its theoretical and practical significance, its approval and application, and the total volume of the work.

The first chapter of the dissertation is entitled “**Socio-economic significance of the food industry and theoretical foundations of its**

regulation”. This chapter presents the theoretical foundations of the regulation of the food industry; the place of the food industry in the country's economy; and the scientific opinions of local and foreign scientists who have conducted research in this direction, including the development characteristics of the meat and dairy processing sector.

Currently, information about the products to be produced by these enterprises and the sale of these products comes from the market and regulates the development of the food industry through the market mechanism. However, the development of the strategically important food industry is also stimulated and protected by the relevant state structures, and the development of the sector is directed towards the desired path. In our opinion, this should be the case, because leaving the development of this vital sector (as well as other sectors related to the development of the sector, such as agriculture, etc.) entirely to the market mechanism does not justify itself, and the undesirable negative consequences of such development can be classified as follows:

- the emergence of monopolistic structures that limit competition;
- the spontaneous development of the sector creates obstacles to environmental pollution and meeting the needs of future generations for food products, ensuring sustainable and sustainable development;
- the development of the market based on the principle of self-regulation without intervention can lead to the weakening of state control and the growth of socially unprotected segments of the population.

The negative aspects listed above demonstrate the undesirability of development being entirely under the influence of market mechanisms and the inevitability of state regulation in the field.

This chapter notes that a number of structures deal with the regulation of the food industry, but among them, the state has the strongest influence on the development of the sector in question. State regulation of the food industry means the development and implementation of targeted measures to direct the development of that sector in the desired direction.

The state carries out its regulatory function in one area or another by combining two groups of methods: direct (administrative) and

indirect (economic) methods. The division of these methods is in some cases conditional, since it is difficult to definitively establish which measure belongs to which method. However, it is important to clarify the role of the state in regulating economic processes in terms of these methods.

Positions on the state's protection of Azerbaijan's agriculture, as well as the agri-food sector as a whole, have been formed over many years. These positions are combined into the following four groups:

- in the direction of expanding foreign trade relations;
- on positions related to the level of income in agriculture;
- on positions related to the development of rural areas;
- in the directions of environmental protection and the production of environmentally friendly products.

Professor E.A. Guliyev notes in his research that *“the role of the network of cooperatives in the formation of a favorable environment for the application of means of protecting the agrarian and food market is quite large. This role can be increased by the introduction of a system of guaranteed prices, the establishment of a minimum price limit in the market, the introduction of flexible and maneuverable customs duties in terms of protecting local production and the domestic market, and, as already mentioned, the development of state programs for the creation of a network of pilot cooperatives.”*³

Although integration-cooperation relations are not very developed in the agri-food system of our country, the development of these relations can lead to an increase in the results obtained from the activities of the said complex. This is also shown by the experience of developed countries.

In the production of agri-food and food products in our country, there is a need to use all three types of integration between agricultural raw material producers and processing enterprises, and this is conditioned by a number of reasons. Of course, among these reasons, first of all, the requirements of processing and food enterprises for raw materials and the presence of sharp changes in the time of meeting these requirements

³ Guliyev, E. A. Reliable food supply system: problems of cooperation and integration / E. A. Guliyev – Baku: Elm, 2018, - 307 p.235

should be indicated. Sharp changes can be related to both the quantity, quality and price of raw materials. Referring to the research of foreign scientists in this direction, we note that such uncertainty does not satisfy processors and food producers. R.L. Kolz shows in his research that *“Predicted production” has made it possible to integrate agricultural and non-farm production. The needs of farmers for financing and insurance against risks have stimulated them to cooperate and cooperate*⁴.

This or that processing and food enterprise is faced with the need to enter into integrated relations with agricultural raw material producers in order to use its production capacity at the appropriate level and ensure the efficiency of its activities. Otherwise, changes in the price of raw materials on the market also result in changes in the financial situation of the enterprise, which, preventing stable and increasingly improving development, weakens its foundations. In addition, the entry of processors and food producers into integrated relations is also associated with the positioning of their products in the market.

The added value created in the food industry in 2015-2023 increased from 584.3 million manat to 1053.2 million manat, or by 80.2%. During the analyzed years, the food industry accounted for 3.3 - 3.5% of the added value created in the processing industry, and 1.0 - 1.2% of the gross domestic product. Overall, the added value created in the processing and food industries decreased until 2018 due to inflation in 2014, and then increased again after compliance with the newly formed prices was ensured during this period. The dynamics of the added value created in the food industry are given in the chart.

According to the data of the State Statistics Committee of Azerbaijan, although there was an increase in the dynamics of added value created in industrial sectors by types of economic activity, in 2023 this indicator in the processing industry decreased by 5.2 percentage points compared to the previous year, from 15% to 9.8%. In particular, this indicator in the production of food products decreased by 0.9 percentage points compared to the corresponding years.

⁴ Richard, L. Coles /Richard L. Coles, Joseph N. Uhl/Marketing of agricultural products, Moscow "Kolos", 2000, 509 p.238

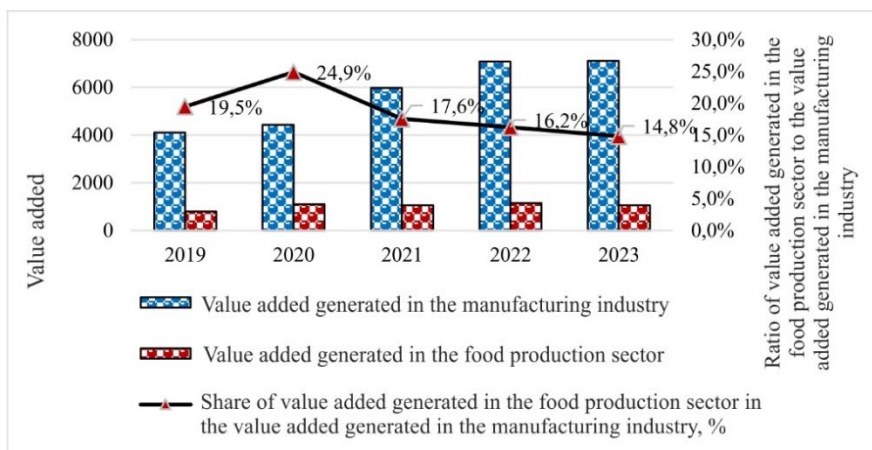


Chart. Added value created in the field of processing and production of food products, at current prices (million manats)

Source: <https://www.stat.gov.az/source/agriculture/>

The priority task for our country is to increase the production of milk and dairy products and to offer milk and dairy products to the market in accordance with the needs of the population. Because the level of satisfaction of the population's needs for milk and dairy products is below rational physiological norms, and in this regard, the market for these products has great growth potential. The Azerbaijani milk and dairy market has great development prospects, and the development prospects of this market can be assessed positively. It is from this perspective that the development prospects of the milk and dairy market can be classified as follows:

- state support for the activities of dairy farms and the creation of milk processing enterprises within the framework of investment programs;
- increasing the real incomes and purchasing power of the population engaged in livestock breeding;
- having the potential for growth of the milk and dairy products market by implementing large-scale measures;
- the current state of consumption of milk and dairy products by various segments of the population is lower than the rational physiological consumption norms of the said products and the

- consumption of milk and dairy products in developed countries;
- further increasing people's interest in a healthy lifestyle due to quality products;
- encouraging the Azerbaijani population to give preference to the consumption of milk and dairy products in their diet.

The factors listed above may lead to an increase in the affordable demand of the Azerbaijani population for milk and dairy products in the near future, and therefore, an increase in the real capacity of the market for these products and the further development of that market.

In the second chapter of the dissertation entitled "Analysis of the current state of the system of economic relations in the meat and dairy processing industry", the current state of production in the food industry was investigated and analyzed, the current state of regulation of the system of economic relations in the meat and dairy processing sector was studied, and the factors affecting the market activity of the food industry were analyzed.

The food industry of Azerbaijan is developing poorly due to the lack of raw materials and the existence of problems with product sales. The high demand of the population for the products of this industry, the fact that the products in question are easier to store than agricultural products used as food, and the presence of a permanent market have further strengthened the interest in the production of food products. Studies show that in 2023, compared to 2017, the number of enterprises engaged in the production of food products increased from 361 to 641, or by 280 units.

The main indicators of the activities of enterprises engaged in the production of food products for the last six years are given in Table 1.

As can be seen from the data in the table, the number of individual entrepreneurs registered to engage in industrial activities in 2023 increased from 4,754 to 7,456 compared to 2018, or by 2,702 units (45.6%). The value of industrial products (works, services) produced by enterprises and entrepreneurial structures operating in this field increased from 3,050.8 million manat to 4,547.6 million manat (49.0%).

Analysis of the growth of meat by species shows that in recent years, poultry has been in the lead in terms of this indicator. This is due to the fact that the development of industrial poultry farming is

more affordable than the production of beef and the latter has a shorter production period. Studies conducted by Russian researchers also show that this situation is the same. Thus, in their studies, it is noted that "a decrease in demand for beef is observed all over the world, and this decrease in demand is justified by a decrease in the number of herds, an increase in the price of beef, an increase in the cost of keeping animals, and the poor development of genetics compared to poultry and pig farming"⁵.

Table 1

Key performance indicators of food production enterprises

Indicators	2018	2019	2020	2021	2022	2023
Number of operating enterprises	393	449	487	540	587	641
state	7	9	9	9	7	8
non-state	386	440	478	531	580	633
Number of individual entrepreneurs registered to engage in industrial activity	4754	5252	6042	6623	6924	7456
Value of industrial output (works, services), at current prices of the relevant years, million manat	3050,8	3584,8	3884,3	4495,6	4890,9	4547,6
Industrial production index, in percent compared to the previous year (at constant prices)	101,3	110,8	97,3	112,6	108,2	109,2
Share of the sector in the total value of industrial output produced in the country, in percent	6,4	7,6	10,4	8,1	5,7	6,8
Share of the non-state sector of the sector in the non-state sector of the country's industry, in percent	7,7	9,3	13,3	9,8	6,5	8,2

Source: Industry of Azerbaijan, State Statistics Committee Baku, 2024, pp. 56- 57.

⁵ Seregin, S. N. Prospects for the development of national markets for meat and meat products / S. N. Seregin, G. I. Panaedova, A-N. D. Magomedov // Strategy for the development of the economy, 22 (115)–2011, p. 18. URL: <https://cyberleninka.ru/article/n/perspektivy-razvitiya-natsionalnogo-i-regionalnyh-rynkov-myasa-i-myasnoy-produktsii>

The share of poultry meat in the composition of meat resources produced worldwide has exceeded 30%. This is also observed in our country, and the share of poultry meat in total meat production continues to remain high. During 2013-2023, the share of poultry meat in the composition of meat produced in our country varied between 26.1-29.5%.

The dynamics of meat production in Azerbaijan by farm categories for 2018-2023 is given in Table 2.

Table 2.

Meat production by farm category (thousand tons)

	2018	2019	2020	2021	2022	2023	In 2023 compared to 2018, %
By all farm categories	326,0	335,7	346,0	357,6	368,2	379,2	116,3
Compared to the previous year, %	102,9	103,0	103,1	103,4	103,0	103,0	-
Agricultural enterprises	60,7	54,3	52,7	60,2	65,3	63,3	104,3
Compared to the previous year, %	95,3	89,5	97,1	114,2	108,5	97,0	-
Individual entrepreneurs, family farmers and households	265,3	281,4	293,3	297,4	302,9	316,4	119,3
Compared to the previous year, %	104,8	106,1	104,2	101,4	101,9	101,5	-

Source: Agriculture of Azerbaijan, State Statistical Committee. Baku, 2024, p. 101.

It is known that increasing production in livestock farming is related to increasing their productivity, along with the number of heads. Studies show that due to the poor technology of breeding cattle and livestock feeding in family-peasant and household farms in Azerbaijan, the milk yield per cow is 6-7 times lower than the yield obtained in developed countries and the yield of cows kept in local breeding farms. Milk production by species in Azerbaijan for 2013-2023 is given in Table 3.

The production volume of meat and dairy products produced by processing industry enterprises is also significantly lower than the demand for these products. For example, the production of butter in our country, as a dairy product, is not even at the level of the minimum demand for this product. Thus, despite the minimum demand of the country's population for this product being 68.0 thousand tons, the production of this product in 2023 amounted to only 27.0 thousand tons, which is equal to 41.5% of the minimum demand.

Table 3.

Milk production by type for all farm categories, (thousand tons)

Years	Milk total	including	
		Cow and buffalo milk	Sheep and goat milk
2013	1796,7	1756,7	40,0
2014	1855,8	1824,2	31,6
2015	1924,5	1889,8	34,7
2016	2009,9	1971,7	38,2
2017	2024,1	1985,0	39,1
2018	2080,4	2042,8	37,6
2019	2150,8	2114,4	36,4
2020	2192,5	2156,9	35,6
2021	2223,9	2187,8	35,6
2022	2264,7	2229,1	35,6
2023	2284,0	2249,7	34,3

Source: Agriculture of Azerbaijan, State Statistical Committee. Baku, 2024, p. 176.

The dynamics of meat and dairy products produced by food industry enterprises in our country in recent years is given in Table 4. The high prices of meat and dairy products and the deepening of the problem of meeting the demand for these products were also influenced by the shortcomings in the placement of dairy and meat processing enterprises in the regions.

Poultry enterprises operating in Azerbaijan are known as the most integrated enterprises among the enterprises operating in the meat and meat products sub-complex of our country.

Table 4.

Dynamics of production of meat and dairy products by food enterprises (thousand tons)

	2018	2019	2020	2021	2022	2023	In 2023 compared to 2018, %
Sausage products	16,4	19,3	25,8	26,7	29,7	30,2	184,1
Milk and cream with a fat content of 1-6%	929,3	962,0	974,6	965,1	929,1	897,8	96,6
Milk and cream with a fat content of more than 6%	6,9	7,6	8,8	9,0	8,2	9,1	131,9
Butter	23,6	24,1	24,6	27,0	25,9	27,0	114,4
All types of cheese	50,1	51,4	53,5	53,4	57,9	55,0	109,8
Yogurt, cream, yogurt, etc. dairy products	131,2	141,3	157,0	151,5	145,1	157,7	120,2
Ice cream	0,2	0,9	2,2	3,4	5,8	5,1	25.5 times

Source: Industry of Azerbaijan, SSC Baku, 2024, p.55., Food balance of Azerbaijan, SSC, 2024, p.61-65. <https://www.stat.gov.az/source/agriculture/>

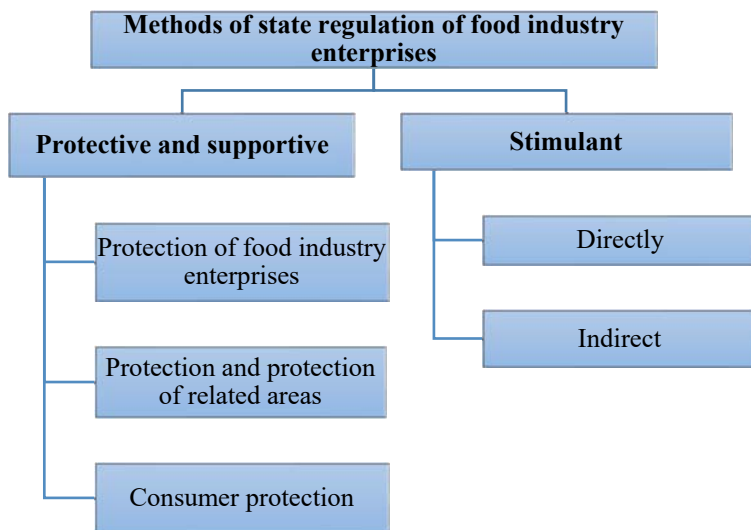
In the third chapter of the dissertation entitled “Directions for improving the regulation of the system of economic relations of the food industry”, the author substantiated the regulation of the system of economic relations in the food industry, the organization of clustering in the food industry, and continued research work on forecasting the demand for meat and dairy products of the country's population.

According to the data of the State Statistics Committee of Azerbaijan, a significant part of meat and milk in our country is produced by small farms operating in agriculture - individual entrepreneurs, family farmers and households. The conducted studies show that in 2017-2023, 80-83.2% of meat, including 97.7-98.6% of beef, 99.1-99.3% of sheep and goat meat, 41.3-54.8% of poultry meat, and 95.6-96.0% of milk fell to the share of individual entrepreneurs, family farmers and households.⁶

⁶ <https://www.stat.gov.az/source/agriculture/>

The dominance (leading force) of small farms that are not competitive in the production of meat and milk necessitates the prompt resolution of their problems and the implementation of appropriate measures to adapt them to the market. Of course, in the system of these measures, the regulation of inter-sectoral relations in the production of agri-food and food products is of great importance. It is through these measures that, on the one hand, it is possible to create conditions for the sustainability of the market activities of enterprises and farms operating in this system, and on the other hand, it is possible to support their organization and management of production and sales activities in accordance with market requirements.

The dissertation work shows that the system of economic relations of meat and dairy processing enterprises operating in the food industry is implemented through normative legal documents adopted to regulate the activities of these enterprises. As for the methods of state regulation of the activities of the said enterprises, we can note that these methods can be divided into protective and supporting, as well as stimulating methods, as shown in the following scheme.



Scheme. Methods of state regulation of the activities of food industry enterprises

Source: Scheme compiled by the author.

There are many advantages to developing partnerships between businesses in the food industry, including those producing meat and dairy products. John Egan, studying the opinions of well-known scholars who have researched in this field, attributes the following to the advantages of partnerships between businesses and organizations:

- lower transaction costs;
- continuity of raw material shipments;
- improved coordination of the activities of the raw material sender and the enterprise acting as a customer;
- creation of a reliable barrier preventing outsiders from entering the market.

As we have noted, enterprises producing meat and dairy products are completely free to choose the enterprises acting as partners in the implementation of market activities (senders of raw materials and materials, trading enterprises, etc.). The transition of these enterprises to a system of economic relations with enterprises acting as participants in the value creation chain for the customer reflects its vertical mutual marketing relations.

The dissertation discusses the importance of cluster development and notes that the market infrastructure block of the agrocluster includes organizations such as banks, insurance organizations, information consulting services, etc. As a result of the activities of these organizations, enterprises included in the cluster ensure that their activities are insured against various risks, and at the same time they can obtain information about changes in the food market, such as meat and meat products, milk and dairy products.

According to the forecast data on production and demand for 2025-2030 based on statistical data, the population of Azerbaijan will reach 10,510.0 thousand people in 2025, 10,595.0 thousand people in 2027, 10,711.0 thousand people in 2030 and 10,850.0 thousand people in 2034⁷.

According to the Resolution No. 182 of the Cabinet of Ministers of the Republic of Azerbaijan dated June 6, 2014, based on the annual consumption norms of the main types of food products approved for

⁷ <https://www.fao.org/about/who-we-are/departments/statistics-division>

the minimum consumption basket, the average per capita consumption of meat and meat products was determined at 31.5 kg, and the consumption of milk and dairy products (converted to milk) was determined at 232.3 kg. Based on these norms, the demand for meat and meat products in 2027 is expected to be 333.7 thousand tons, and the demand for milk and dairy products is expected to be 2,461.2 thousand tons.

According to our calculations, during the years under study (2025-2030), the minimum demand of the country's population for meat and meat products will vary between 331.1-337.4 thousand tons, the minimum demand for milk and dairy products will vary between 2441.5-2488.2 thousand tons, including the minimum demand for butter between 70.4-71.8 thousand tons. The production of such products is within the capabilities of Azerbaijan itself.

In the "Conclusion" section of the dissertation, suggestions and recommendations of scientific and practical significance based on the research are summarized as follows.

1. Our research shows that the meat and dairy industry faces a number of systemic problems that affect its efficiency, sustainability and competitiveness, with similarities and differences across countries. In Azerbaijan, one of the main conditions is that the product produced must be of high quality and safe for health, and this is the case in all countries. However, despite this requirement, cases of violation of consumer rights are often observed, and the population's trust and confidence in meat and dairy processing enterprises, as well as in enterprises producing other food products, is at a low level. In order to gain consumer trust and achieve the production of quality products, it is necessary to strengthen control at all stages of production in this area, apply modern monitoring and analysis technologies, and improve the systems for tracing the origin of products.

Another important problem in our country is the low productivity and quality of raw materials used (frozen meat, dry milk, fat content of fresh milk). The entry of sick animals or meat of unknown origin into the market is also among the existing problems. This requires

effective nutrition and strengthening of veterinary services to increase animal productivity and improve the quality of milk and meat. At the same time, in accordance with the requirements of a modern market economy, there is a need to apply modern technologies in the feeding and care of livestock, improve genetics, improve veterinary services, apply environmentally friendly technologies, optimize resource use, and develop special projects and programs aimed at the disposal of waste and dead animals. We believe that these approaches create an incentive to increase the efficiency and sustainability of the meat and dairy industry, its competitiveness, and provide high-quality products.

2. In the meat and dairy industry, the mismatch between the development of the raw material base and the location of processing plants leads to many problems, such as high transportation costs, reduced product quality, and inefficient use of resources. Several strategies and directions have been identified to eliminate such mismatches. As is known, our regions differ in natural and soil climatic conditions. In this regard, when planning product production, it is first of all necessary to conduct a detailed analysis of raw material resources and processing needs in the regions. This includes an assessment of production volumes, the needs of processing plants, and the possibilities of expanding new technologies.

In order to ensure the development of the agricultural sector, as well as the processing and food industry, it is imperative to develop strategies that take into account the needs of raw material areas and the availability of processing enterprises. Such strategies should be integrated into regional economic development plans or programs. On the other hand, one of the important factors in regional development is ensuring that logistics and transport infrastructure meets modern requirements. Accelerating transportation between these raw material production areas and processing enterprises, improving transportation, will allow for high-quality and loss-free delivery of products, ensuring efficient distribution of raw materials and finished products, and reducing transportation and storage costs.

3. In order to locate processing plants in accordance with the production of raw materials in the regions, the possibilities of creating new processing plants near the main areas of the raw material base

should be assessed. Here, one can consider both determining the need for the construction of new plants and the modernization of existing ones. Since the development of the processing industry in a fiercely competitive environment is considered risky, there is a need to develop state support programs to stimulate the placement of processing plants in regions with an excess of raw materials. Taking this into account, in our study, we consider it appropriate to create clusters and cooperatives in the country using the experience of developed countries for the effective organization of integration processes. In the development of agro-industrial clusters, it was determined that the formation of agro-processing clusters is more efficient when raw material producers and processors work in close cooperation. This also allows for improved coordination and consistency between participants in various supply chains.

Considering that the majority of farms operating in the agricultural sector are very small, we consider it appropriate to identify the creation of cooperatives among small producers who can jointly invest in processing capacity in this area and improve coordination with processors, and to develop a mechanism for its state support. We believe that the implementation of the above issues can significantly improve the consistency between the development of the raw material base and the location of processing enterprises, which, in turn, will ensure the efficiency and sustainable development of the meat and dairy industry.

4. In the field of meat and dairy processing, the formation of relations between enterprises and farms based on cooperative and integrated relations is one of the most effective ways to solve many problems of the industry, such as inefficiency, high costs and instability of supply. Due to the small size of farms, the creation of agricultural cooperatives allows for the efficient use of production resources, reduces costs, improves product quality, and also leads to the purchase of new products from raw materials, the creation of additional jobs and an increase in employment.

Family farms and individual entrepreneurs engaged in livestock breeding can create cooperatives to jointly process the milk and meat they produce. This will allow reducing equipment, technology and logistics costs, as well as improving product quality control. However,

given their current low financial situation, we consider it appropriate to develop a special state support mechanism for this purpose.

It should be noted that cooperatives can attract investment to establish or improve processing plants. This makes them more resilient to market changes and makes better use of available resources. Here, joint activities with processors can also be considered. Thus, the integration of production processes can lead to the integration of farms and processing plants into a single supply chain, improving coordination between them, reducing waste generated in the production process, and increasing efficiency. This requires the development and improvement of mechanisms for concluding long-term contracts and supply agreements.

Establishing cooperatives facilitates joint access to new technologies. Farms and processors can jointly invest in new technologies, such as automation systems, biotechnology, and environmentally friendly processing methods. Here, the distribution of income according to the specific weight of the invested investment or capital can be a mechanism that will satisfy the parties and is in their interests. This also allows for improving productivity and product quality, and for better sales of the product in the market and gaining consumer confidence. The joint organization of cooperatives with processors allows for the effective implementation of marketing strategies in both the agricultural and processing sectors, namely joint advertising campaigns, participation in exhibitions and fairs, and the development of honest programs to attract and retain consumers, which ultimately stimulates increased revenues and access to foreign markets.

5. The establishment, expansion and improvement of cooperation and integration relations between raw material producers (farmers) and meat and dairy enterprises require a systematic approach and the implementation of complex strategies. For this, there is a need to develop and implement cooperation strategies between them. A comprehensive analysis of needs and opportunities by both farmers and processors, determination of basic raw material requirements, possible supply volumes and quality requirements, is essential for the effective establishment of their joint activities.

The parties can also develop a strategic plan for their activities based on the research and analysis they conduct (which can also be done by scientific research institutions close to them or they can also be members of the cooperative). This strategic plan reflects the cooperation, which includes their goals, objectives, action plan and risk assessment. This, in turn, helps to clearly identify areas of cooperation and opportunities for mutual benefit.

To improve the governance of cooperatives, it is necessary to establish internal charters and rules for cooperatives in order to ensure transparency and honesty in management, as well as effective interaction between participants. One of the important issues here is the simplification of financial issues and economic management. For this purpose, it is required to develop financial models and contracts that take into account the interests of the parties and provide stability and predictability in cooperation. This includes long-term contracts for the supply of raw materials and mechanisms for determining prices. This also necessitates cooperation between cooperatives and scientific research areas.

We believe that the implementation of these directions can lead to the creation of sustainable and efficient cooperative and integrated relations between raw material producers and processing enterprises, and to increasing the overall efficiency and competitiveness of the agricultural sector, especially the livestock sector, and industry.

6. There are several main positions and justifications for increasing the role of state regulation in inter-sectoral relations between agricultural farms and the meat and dairy production industry. Because sector regulation can play an important role in improving the coordination, efficiency, and sustainability of the industry.

It is known that product manufacturers are interested in taking a monopolistic position in the market and selling the products they offer to the market at high prices. In this case, inefficiency arises in the market, socio-economic problems in the country increase, and the negative impact on the national currency intensifies. It is from this perspective that state regulation is considered necessary. There are also issues of pressure from foreign products on local producers in the domestic market, which in turn necessitates strengthening state

regulation. It is from this perspective that state regulation can prevent monopolization and promote healthy competition, which creates conditions for lowering prices and improving product quality.

The state should apply a sensitive approach mechanism in these issues, because if the market is completely in favor of the consumer, the producer will go out of business, or conversely, if the producer monopolizes the market, social problems may increase, etc. Therefore, regulation should be balanced. That is, price fluctuations should be monitored and, if necessary, there should be an intervention mechanism. In this case, regulation can smooth out fluctuations in the prices of raw materials and products, ensuring a stable environment for all market participants.

7. One of the most pressing issues today is ensuring the improvement of the quality and safety of manufactured products. For this, the state must have a standardization and control mechanism. It should also be noted that the compliance of manufactured products with international standards facilitates the export of these products and makes them competitive in the market. There is a great need to develop and implement quality and product safety standards, as well as improve the mechanism for monitoring their compliance. This also helps protect consumer health and increase confidence in products.

One of the current issues, as in all areas, is the implementation of monitoring and the development of certification programs. The establishment and maintenance of monitoring and certification systems aimed at ensuring high quality and safety standards is very important for the Azerbaijani food industry and raw material producers. For example, since the majority of wheat produced in the country does not meet food safety standards, a large volume (1.4-1.5 million tons) of wheat is imported every year.

Strengthening the fight against fraud in the markets and protecting consumer rights remains one of the current issues for Azerbaijan. This can be said as the incorrect composition of the meat and dairy products produced. That is, the trust of our country's consumers in these products is at a very low level. For example, according to the data of the State Statistics Committee of Azerbaijan, up to 50 thousand tons (2023-45570.2 tons) of palm oil is imported into our country every

year, but its uses are unknown. Therefore, it is necessary to take measures to combat illegal production and counterfeit products, which help maintain fair market conditions and protect consumers, and this stimulates the further development of the food industry.

One of the more important issues is the protection of local producers from external pressures. The existence of laws to take measures against dumping and unfair competition that can distort market conditions and harm legitimate market participants, as well as the existence of an effective implementation mechanism, creates great confidence in local producers.

Strengthening state regulation in the agricultural sector, as well as in the meat and dairy industry, can support its more efficient and sustainable development, improving product quality and safety for consumers, as well as the economic and social development of regions. Important aspects are the establishment of adequate standards, support for cooperation and innovation, and ensuring equal conditions for all market participants.

8. One of the important directions in the development of integration relations between the agricultural sector, processing and food industry is the organization of a meat and dairy cluster. The development of cluster activities is a complex solution that involves the integration of production, processing and sale of products. The effectiveness of various methods may depend on specific conditions and goals, but there are several generally accepted approaches and principles that help create a successful meat and dairy cluster.

It is known that the production of meat and dairy products begins with the development of livestock and is delivered to the end consumer in the form of added value and new products along the value chain. That is, it goes through major processes such as improving the breed composition of animals, developing livestock complexes based on modern innovative technologies, strengthening the feed base and processing the produced products, preparing a variety of products, packaging and delivering them to the end consumer. Establishing this activity within a single structure increases the efficiency of using production resources, reduces production costs, increases product quality and improves quality control at all stages, and ensures better

planning and coordination between participants.

Another advantage of cluster activity is that it allows the application of new technologies to minimize environmental impacts and improve product quality due to the variability of global climate conditions. Because, since such technologies require high investments for separate activities, this seems difficult, it is easier with state support in joint activities. This, in turn, increases productivity, reduces resource costs and promotes sustainability. For example, in the development of a modern livestock complex, it is easier to use automated feeding systems, robotic milking machines and animal health monitoring technologies, and in this case, clusters that manage both dairy farming and milk and meat processing are possible by ensuring consistency and quality standards in production. It should also be taken into account that for the most successful cluster for our country, special conditions should be used, such as studying resources and the market and specifying the goals set. The combination of these approaches shown in world practice has often led to the creation of the most successful cluster.

The fact that the demand for meat and dairy products of the Azerbaijani population is not fully met, the prices of these products have been increasing in recent years, and the purchasing power of various segments of the population is not very high necessitates the application of more progressive production methods for these products. The organization of milk and meat clusters in regions with a developed raw material base and the protection of their activities by the state can lead to progress in meeting the population's demand for these products.

Meat and dairy clusters are a group of enterprises and farms located in a certain geographical area and complementing each other along the technological chain, and they manifest themselves as means of delivering value to the customer. As a result of the interconnected operation of this group of enterprises and farms, a synergy effect is achieved, which cannot be achieved when operating separately.

The application of the cluster approach is of great importance in reducing the cost of meat and dairy products and ensuring the affordability of these products for consumers. It is on the basis of this

approach that innovative development of enterprises and farms producing meat and dairy products can be ensured, sustainability of their market activities and increase of their competitiveness can be achieved. All this ultimately means sustainable development of the country's meat and dairy market and taking advantage of the marketing opportunities opened up to enterprises and farms in the relevant segments of that market and preventing the expansion of foreign producers into the market.

The following articles and theses of the author on the topic of the dissertation have been published:

1. Gorchiyeva T.K., Zeynalli A.T., Karimli S.Y. Ways to improve the criteria for economic statistical assessment in the fields of the agro-industrial complex // – Baku: Scientific Works of the Scientific Research Institute of Agricultural Economics, Scientific-theoretical journal, 2017. – pp. 32-47.

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3. Abbasov V.H., Gorchiyeva T.K. Development priorities of food industry sectors // – Baku: Agrarian Research Center, “Agricultural Economics” scientific and practical journal, 2020 No. 1 (31). – pp. 122-131.

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8. Gorchiyeva T.K. Improving the efficient use of labor resources in the development of the agricultural processing industry // – Baku: “Audit” scientific and practical journal, 2025, No. 1 (47) – pp. 144-155.



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