

**REPUBLIC OF AZERBAIJAN**

*On the rights of the manuscript*

**ABSTRACT**

of the dissertation for the degree of Doctor of Philosophy

**TRADITIONAL AND PERSPECTIVE DIRECTIONS OF  
SPECIALIZATION OF ENTERPRISES IN SHAKI-  
ZAGATALA REGION**

Speciality: 5311.01 – “Organization and management  
of enterprises”

Field of science: 53- Economic sciences

Applicant: **Aliyeva Shohrat Izzet**

**Baku – 2025**

The work was performed at the “Department of Business Organization and Management“ at Sumgayit State University.

Scientific supervisor: Doctor of economic sciences, Professor  
**Rustambayov Hajiagha Bakhish**

Official opponents: Doctor of Economic Sciences,  
Professor  
**Ilham Alici oglu Aslanzade**

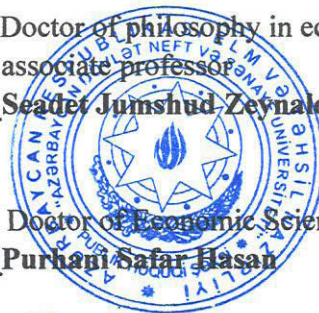
Candidate of Economic Sciences,  
Associate Professor  
**Alasgar Mehdi oglu Aliyev**

Doctor of Philosophy in Economics,  
Associate Professor  
**Parviz Samad oglu Hasanov**

The BFD 4.26 One-Time Dissertation Council operating under the Azerbaijan State Oil and Industry University under the Supreme Attestation Commission under the President of the Republic of Azerbaijan  
Chairman of the Dissertation council: **Corresponding member of ANAS,  
doctor of economic sciences, professor  
Gorkhmaz Jahangir Imanov**

Scientific secretary of the Dissertation council: **Doctor of philosophy in economics,  
associate professor  
Seadet Jumshud Zeynalova**

Chairman of the scientific seminar: **Doctor of Economic Sciences, professor  
Purnani Safar Hasan**



**İMZANI TƏSDİQ EDİRƏM**  
**ADNSU-nun Elmi katibi**

*dos. Husein S. N.*  
*Husein*

## GENERAL CHARACTERISTICS OF THE WORK

**Relevance and development of the topic.** It is known that a new stage in the comprehensive development of our country is taking place. The objective of the state's economic policy is the rapid development of entrepreneurship and strengthening its role in solving socio-economic problems, the correct and efficient use of existing potential. From this point of view, it is important to strengthen support for the development of traditional industries in the regions, more efficient use of potential opportunities, employment, further improving social welfare by increasing the interest of the population in production. Prioritizing the creation of conditions highlights the need to study the traditional areas of the regions and promising areas of specialization.

The formation of a national economy based on market relations in modern times and its effective integration into the world economic system, above all, implies the development of the country's economy, especially regional enterprises. The Strategic Road Map approved by the President can be considered as a key measure in this area. This document defines ways to expand the production and processing of agricultural products at the macro (national economy) and micro (sectors) levels, as well as more efficient organization of production, specialized tourism activities, logistics and trade, vocational education complex, financial services, short-term and medium-term development of telecommunications and utilities. The basis of the national economy is to minimize the country's dependence on imports, increase the production of non-oil products with export potential, produce consumer goods, develop specialized tourism, diversify the economy mainly in the non-oil direction, making agricultural conditions in the region, analyze the current situation of industrial and tourism enterprises, potential opportunities, perspective specialization conditions. In our opinion, the direction of Azerbaijan's economic development until 2026 can be achieved by creating a favorable environment for business, state support for investment in

the private sector, as well as achieving the production of competitive products for the country's integration into the world economy.

At a time when food security is important, strengthening the activities of production and processing enterprises in the regions is of paramount importance. In addition to the efficient use of the region's existing resources to meet demand through local production, potential opportunities for enterprise development must be scientifically substantiated.

In a market economy, regional enterprises must increase the range of products and services with high standards, ensure the satisfaction of end consumers and strengthen the position of the company's products in similar markets. For this, there is a serious need for improved strategies and mechanisms for the traditional and long-term specialization of regional enterprises. All these factors indicate the relevance of the topic of the dissertation.

Although many scholars have conducted various studies on the Shaki-Zagatala economic region, both in terms of geography and general regional problems, no extensive research has been conducted at the regional level in terms of using economic potential based on the analysis of socio-economic indicators. In this regard, the main goal is to analyze the traditional and perspective areas of specialization of enterprises in the Shaki-Zagatala region in a market economy and to study their development features from an economic point of view.

Regional development and the expansion of non-oil sector production, which form the basis of the state's strategic plans, also increase the role and responsibility of researchers. From this point of view, scientific research and solution of existing problems in the republic have been studied by such scientists as A.A. Nadirov, Z.A. Samadzade, H.B. Rustambeyov, I.H. Gasimov, A.M. Maharramov, N.G. Gurbanov, J.P. Abbasov, A.H. Nuriyev, N.H. Eyyubov, T.H. Huseynov, A.J. Gasimov, A.M. Hajizade, N.H. Akhundov, V.T. Nazirova, N.G. Hajiyeva, A.A. Gurbanzade, S.V. Salahov. The mentioned issues have been studied in the scientific works of foreign economists such as G.G. Fetisov, V.P. Orshenin, MCH Chaguchiyeu,

P.V. Nazarov, R.I. Malikov, M.M. Sokolov, I. Kilincaslan, Z. Dinler, J. Taylor.

Different theories, methodologies and approaches of scientists to regional development were used in the study of development problems of the region for the realization of economic interests. In these works, the problems of regional development are developed and compared mainly on the basis of geographical location, natural resources, regional production, division of labor, territorial theories.

Although the problems mentioned in the research were studied in different directions, they were not specific in terms of developing the development and priorities of the enterprises operating in the ShakiZagatala economic region. Taking this into account, in modern conditions, it is necessary to conduct a comprehensive study of traditional and promising areas of specialization of enterprises in the Shaki-Zagatala region.

**Object and subject of research.** The object of research is industrial, agricultural and tourism enterprises of Shaki-Zagatala economic region of the Republic of Azerbaijan. The subject of the research is the resources that ensure the specialization of regional enterprises and issues of their efficient use.

**Goals and objectives of the study.** The purpose of the study is to analyze the current situation of enterprises in the region, traditional and perspective areas of specialization and to develop substantiated practical proposals on accelerating the development of existing activities in the Shaki-Zagatala economic region and the creation of new industries.

To achieve this goal, the following tasks have been set and solved:

Investigation of the essence of the complex development features of the regional economy.

Analysis of the field structure and production potential of regional enterprises.

Analysis of socio-economic development of Shaki-Zagatala economic region.

Analysis of the current situation of industrial, agricultural and tourism enterprises in the Shaki-Zagatala economic region.

Investigation of the role of the state regulatory mechanism in the development of regional enterprises.

Development of scientific and practical proposals to increase the efficiency of specialization of regional enterprises.

Substantiation of proposals for more efficient use of the existing potential of the economic region, increasing the attractiveness of investment.

Determining the directions of infrastructure development in the specialization of the enterprise in the Shaki-Zagatala economic region.

### **Research methods.**

1. Theoretical and methodological basis of the research is the Decrees and Orders of the President of the Republic of Azerbaijan, the laws adopted by the Milli Majlis of the Republic of Azerbaijan, relevant normative acts of the Cabinet of Ministers of the Republic of Azerbaijan on the socio-economic development of the regions, as well as the results of research work of local and foreign economists in this field.

2. The information base of the research consists of reports of the State Statistics Committee of the Republic of Azerbaijan, the Ministry of Economy, the Ministry of Agriculture of the Republic of Azerbaijan, as well as local executive bodies and business entities operating in Shaki-Zagatala economic region. Internet resources were also used during the study.

3. Comparisons, groupings, graphs, logical approaches, mathematical-statistical methods and mathematical calculations were used in the research process.

**The main provisions of the defense.** In accordance with the main results characterizing the scientific novelty of the work, the following provisions of the dissertation are defended:

A comprehensive study of the complex development features of the economy of the Shaki-Zagatala region is an important condition for the study of potential and priority areas of specialization.

The economic development of the region has been comprehensively analyzed, the tendencies of specialization of each field have been studied on the basis of statistical basis and it has been determined that the development prospects of potential and priority specialization areas of enterprises should be considered together.

The analysis of the activities of industrial enterprises and the assessment of production potential show how promising the specialization in industry is.

One of the important conditions for determining the areas of specialization in agricultural products in the region should be the assessment.

In order to assess the direction of perspective specialization, the dependence of causal factors on the production of cereals was determined, and a mathematical-statistical model was established.

The analysis of tourism enterprises and their impact on the economic development of the region, the existing problems, it is expedient to identify promising tourism potential.

There is a need to change the intensity of technology and education to increase the level of specialization of the existing competitiveness. Smart specialization in the region is important in terms of effective research and innovative investment.

The formation of a favorable business environment in the region is a necessary condition for the specialization of enterprises in the region. Given that the successful development process depends on the joint efforts of the public and private sectors, it is necessary to continue supportive measures that are in line with the region's capabilities.

### **Scientific novelty of the research:**

For the first time, the Shaki-Zagatala economic region has been extensively studied in terms of the specialization of enterprises;

A system of indicators reflecting the economic development of the region and the factors influencing it have been developed;

The role of the development of production and social infrastructure in increasing the attractiveness of the region for investors has been identified;

The significant impact of the increase in the number of enterprises with export potential on the region's economy has been scientifically substantiated and proposals have been prepared;

To assess the direction of prospective specialization in the Sheki- Zagatala region, the dependence of cause-and-effect factors on cereal production was determined, and proposals were put forward based on an econometric model.

### **Theoretical and practical significance of the research:**

In theory, an important step has been taken towards the traditional and promising specialization of regional enterprises. In the Shaki- Zagatala economic region, a significant increase in theoretical knowledge on measures to improve production at enterprises, promising areas of specialization has been achieved.

Practical significance of the research: It is expedient to use the results obtained in the dissertation in the activities of regional enterprises.

**Approbation of research and application of results.** Results of research work, developed theoretical-methodical and practical recommendations: At the republican scientific-practical conference on ways to increase the competitiveness of the economy (Sumgayit-2017); "At the XXII Republican Scientific Conference of Doctoral Students and Young Researchers (Baku-2018); International Conference "Economic Security: Current Situation and Prospects" (Sumgayit2018); "Current Problems of Ensuring Economic Security of States, Regions, and Enterprises", Collection of scientific articles of the III International Scientific and Practical Conference (Ufa-2019); "Current

Problems of Ensuring Economic Security of States, Regions, and Enterprises", Collection of articles of participants of the IV

International Scientific and Practical Conference (Ufa-2020); «Economics, finance, accounting and law in Ukraine and the world», Materials International scientific-practical conference (Poltava, Ukraine-2021) has been reported.

The results of the research, theoretical and practical proposals were published in a number of prestigious journals and journals, including 10 articles (four abroad), 13 theses (four abroad), as well as in various conference proceedings held in our country and abroad.

The proposals and recommendations developed as a result of the research were submitted to the Shaki Regional Scientific Center for use and a relevant certificate on their use was obtained.

**The organization where the dissertation is performed.** The dissertation was completed at Sumgayit State University.

The dissertation consist of an introduction (12758 characters), 3 chapters (Chapter I – 38237 characters, Chapter II - 118729 characters, Chapter III – 32660 characters), conclusion (9297 characters), additions (2214 characters) and a list of 176 references. The volume of the dissertation work consist of 156 pages. (211681 characters, excluding tables, graphs, images and bibliography.

# **CONTENTS OF THE DISSERTATION**

## **INTRODUCTION**

### **Chapter I. General characteristics of the specialization of enterprises in the Shaki-Zagatala region**

1.1. Methodological approaches to the problem of regional specialization

1.2. Formation of a favorable business environment in the region

1.3. Complex development features of the economy of the Shaki-Zagatala region

### **Chapter II. Analysis and evaluation of the activities of enterprises in the Shaki-Zagatala region**

2.1. Analysis of the activities of industrial enterprises and production potential

2.2. Evaluation of the activities of enterprises producing and processing agricultural products

2.3. Tourism enterprises and their impact on the economic development of the region

### **Chapter III. Perspective development directions of specialization of enterprises of Shaki-Zagatala region**

3.1. Advantages of cluster structure of regional enterprises

3.2. Prospects for the development of traditional and new areas of specialization of regional enterprises

**Conclusions and suggestions**

**References**

**Additions**

## Brief summary of the dissertation

The introduction presents the relevance and the extent of prior research on the topic, the object and subject of the study, the research aims and objectives, the scientific propositions submitted for defense, the novelty of the research, its theoretical and practical significance, as well as the approbation of the main findings of the dissertation.

In the first chapter, entitled "*General Characteristics of Enterprise Specialization in the Shaki-Zagatala Region*" methodological approaches to the problem of regional specialization, the formation of a favorable business environment in the region, and the features of the complex development of the regional economy are explored.

Scientific studies on regional development problems have been conducted in sources devoted to the study of regions in Azerbaijan. A.Kh. Nuriyev notes that "in regions with natural resources and a long-established production experience, it is necessary to implement a structural policy to ensure production efficiency."<sup>1</sup>

Although the applied economic policy prioritizes the efficiency factor, there are still significant shortcomings in utilizing the available potential in the regions.

According to him, every sector within a region should be proportionally balanced with others, and infrastructure must also be developed within the framework of the policy to be implemented."

G.G.Fetisov presented regional interest as a factor that determines the efficient use of the production, labor, and natural resources available within a region.<sup>2</sup> Although regions are gaining increased autonomy, a contemporary regional development strategy

---

<sup>1</sup> Nuriyev, A.Kh. *Fundamentals of regional management* / A.Kh. Nuriyev, - Baku - 2007. - 428 p.

<sup>2</sup> Fetisov, G.G. *Regional Economics and Management* / G.G. Fetisov, V.P. Oreshin. - Textbook. - Moscow: Infra-M. - 2013, - 330 p.

---

must account for a complex set of requirements arising from the interdependence between the global economic system and the national economy. As economist R.V. Kryukov posits, *“the essence of the state strategy for regional development consists in a coordinated effort aimed at harmonizing the interests of the central government, regional administrations, local self-governance institutions, various property stakeholders, ethno-territorial communities, and the citizenry at large.”*<sup>3</sup> From this perspective, the region becomes a representative and defender of national interests in the global market. According to V.V. Kotilko, if *“regional policy constitutes an integral part of state policy,”* then it must accurately reflect the country's strategic interests and be capable of adapting effectively to the evolving conditions of the global economy. Regional policy should respond promptly to dynamic changes, taking into account objective economic laws and regularities. As he further emphasizes, *“a general theoretical approach to the study of the current state of regions will enable the identification of development patterns and traditions, as well as facilitate the analysis of the key socio-economic, institutional, and political processes unfolding within them”*<sup>4</sup>.

Enhancing the conditions for business operations and attracting investments stands as a pivotal determinant in accelerating the socioeconomic development of a region. In essence, the amelioration of these conditions cultivates an environment wherein both individuals and enterprises are increasingly inclined to initiate and expand business ventures within the region. This inclination is propelled by a surge in consumer demand and purchasing power, alongside a heightened willingness among companies to allocate their labor and resources to regional business projects. The more lucrative and conducive a region is for the development of business projects,

---

<sup>3</sup>Kryukov, R.V. *State Regulation of the National Economy / R.V. Kryukov - Lecture Notes. - Moscow: Prior Publishing House. - 2005, - 176 p.*

<sup>4</sup>Porter, M.E. *Competition / M.E. Porter, translated from English. - Moscow: Williams, - 2000, - p. 175.*

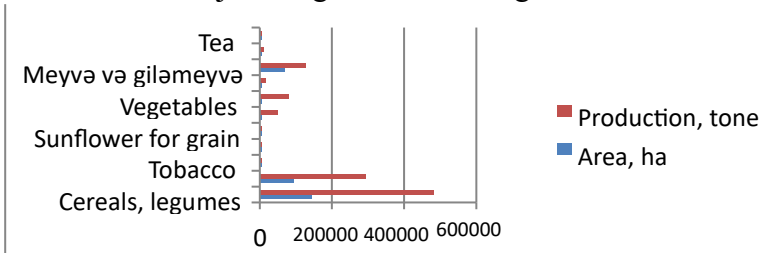
the more robust and dynamic its territory, population, infrastructure, settlement environment, and efficient interconnections will evolve.

Business incubators play an important role in supporting new initiatives and assisting existing enterprises in solving problems they encounter in their activities. In this regard, it is appropriate to establish a business incubator in the Shaki-Zagatala economic region. The activities of Business Incubators include services such as providing the enterprise with the necessary equipment, accounting, clerical work, consulting for business development, researching access to financial resources, conducting various trainings and seminars for conducting business and achieving success in this field.

Although access to financial resources has been gradually improving, financial and credit issues remain a significant challenge for enterprises. The high interest rates on consumer loans offered by various banks limit the financial capacity of these enterprises. As a result, they tend to prefer and strive to obtain concessional loans provided by the government. However, despite the lower interest rate on these loans (5%), another obstacle is the requirement for liquid collateral. This is especially problematic in rural areas where the absence of liquid collateral assets forces intermediary credit organizations to demand the pledging of properties located in cities, thereby restricting farmers' ability to benefit from these concessional loans. Therefore, partially easing the collateral requirements would promote broader and more efficient use of concessional loans. Additionally, loans granted by banks from their own funds should also be incentivized. Due to known reasons such as devaluation, the banking system in the region is nearly in decline. Considering the crucial role banks play in facilitating enterprises' access to financial resources, their activities should be supported, and interest rates reduced.

Shaki-Zagatala economic region, one of the richest regions of the Republic of Azerbaijan, is located in the south-western part of the Caucasus Mountains. The economic region includes 6 regions - Balakan, Zagatala, Gakh, Shaki, Oguz, Gabala, as well as the city of Shaki. The industry of the economic region is almost poorly

developed and mainly processes agricultural products. 98% of tobacco, 16% of grain, 33% of cocoons and 5% of green tea leaves produced in Azerbaijan are grown in this region.



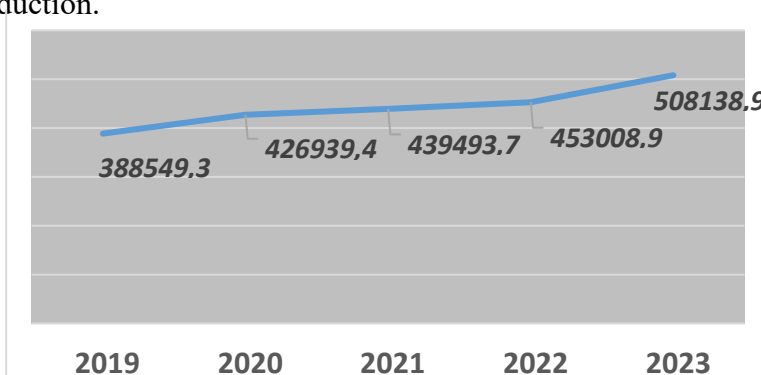
**Graph 1. Planting and production of basic crop products in Shaki-Zagatala economic region<sup>5</sup>**

As we have noted, the region's economy is mainly specialized in the production of agricultural products, which is almost entirely based on grain (Figure 1). The economic region is the main center of grain production in the country, and currently there are 65 large grain farms. Despite the fact that enterprises in the economic region traditionally specialize in agriculture, processing industry and tourism, they face a number of problems that hinder rapid economic development, which were studied in the dissertation. The research aims to identify priority areas and measures that have the greatest potential for sustainable economic development, leading to the reduction of unemployment and the elimination of regional inequalities.

The second chapter, titled **“Analysis and Evaluation of Enterprise Activities in the Shaki-Zagatala Region,”** explores the operations and production potential of industrial enterprises, assesses the performance of agricultural production and processing companies, and analyzes tourism enterprises along with their contribution to the region’s economic development.

<sup>5</sup><https://www.stat.gov.az/source/regions/> compiled by the author.

The volume of industrial output produced in the region over the past 5 years is shown in Figure 2, which is 23% of total output (2023). Industrial output increased by 12% compared to 2022 and by 31% compared to 2019. The reason for the significant increase observed in recent years has been the increase in production in accordance with the current demand, especially in hazelnut processing enterprises, as well as the expansion of the activities of households engaged in food production.



**Graph 2. Industrial products produced in the economic region in 2019-2023, thousand manats<sup>6</sup>**

A study of the activities of industrial enterprises shows that they fall into the category of small enterprises engaged mainly in agricultural processing.

The Shaki-Zagatala economic region stands out in the country for its significant production of walnuts, hazelnuts, and chestnuts, accounting for over 95% of these fruits nationwide. As of January 1, 2024, the region boasts 57,237.2 hectares of hazelnut orchards, with 56,579.9 hectares classified as productive. Zagatala haze renowned for their superior quality, which has driven increasing demand in international markets year after year. Grown without the use of chemical substances, these hazelnuts are considered environmentally

<sup>6</sup> <https://www.stat.gov.az/source/regions/> mainly compiled by the author.

friendly products. They are rich in protein, fats, carbohydrates, and offer high energy value. Approximately 20 enterprises in the region are engaged in the processing of hazelnuts.

**Table 1.**

**“Key economic indicators of Zoom Nuts LLC for 2019-2023,  
in manats <sup>7</sup>**

Indicator title	2019	2020	2021	2022	2023
1	2	3	4	5	6
incomes					
Revenue from the sale of goods, performance of work, provision of services (taking into account returned goods and trade discounts, less VAT and excise tax)	748626594	8104613,24	7896969,40	5037859,16	6989309,00
Other operating income	18089546	315504,33	-	-	-
Subsidies from the state budget	18089546	315504,33	-	-	-
Operating income summary	766716140	8420117,57	7896969,40	5037859,16	6989309,00

---

<sup>7</sup> “Compiled by the author based on materials obtained from Zoom Nuts LLC.

1	2	3	4	5	6
Revenue summary	766716140	8420117,57	7896969,40	5037859,16	6989309,00
Expenses					
Raw materials and supplies - total	6681359,80	7165664,55	6556104,00	3568230,69	1951521,91
Fuel expenses - total	9025,44	6355,95	10719,78	6890,17	9237,32
Oil products from it	9025,44	6355,95	10719,78	6890,17	9237,32
Electricity expenses	8906,74	6965,23	11972,58	11015,66	3751,09
Expenses for payment of services of external organizations for transportation of cargo	143446,20	190651,60	201297,20	204449,43	341542,00
Rent payments - total	21750,00	21150,00	21150,00	19950,00	15387,50
Bank service expenses	30483,55	25739,88	39125,87	9850,46	8676,51
Insurance premiums total	2553,49	2074,61	1791,19	1386,71	3614,65
Wage expenses	152978,02	164009,34	184720,22	125708,57	33048,43
Social insurance contributions	29620,67	31870,22	37729,26	26831,98	1577,59
Depreciation	9563,00	12268,00	10292,00	8757,00	7617,07
Taxes and levies deducted from income	86286,13	77578,40	77157,80	28906,04	14320,00

1	2	3	4	5	6
Other operating expenses total -	100620,24	109098,94	123201,32	160122,45	152355,83
Total operating expenses on	7276593,28	7813426,72	7714161,22	4834169,16	6346649,90
Operating profit (loss (-))	390568,12	606690,85	182808,18	203690,00	642659,10

An analysis of industrial enterprises suggests that the Shaki-Zagatala region’s extensive experience in hazelnut production, combined with Azerbaijan’s strong global standing in both the production and export of hazelnuts, highlights the sector’s promising potential. Additionally, the high profitability associated with hazelnut cultivation has made it a focal point for further development and investment. To assess the efficiency of operations in this sector, we can look at the economic performance of “Zoom Nuts” LLC, a company specializing in hazelnut kernel production. Efficiency, as commonly defined, is the ratio of output results to input costs. In 2023, the efficiency coefficient of “Zoom Nuts” more than doubled compared to the previous year, while the company’s revenue grew by 38.7%.

Despite being a promising area of activity for regional enterprises, the hazelnut industry still faces several challenges. One of the key issues is the lack of certified products in terms of food safety, as well as non-compliance with international standards and requirements. As a result, hazelnuts exported from Azerbaijan lose their competitiveness in foreign markets. Outdated machinery and technology are still in use at many enterprises, making production inefficient and costly. Establishing modern enterprises equipped with innovative technology and laboratory facilities that meet current standards would enable the export of certified, high-quality products to potential international markets.

“Azeripek” LLC currently shows limited potential for significant revenue growth. For example, although 20,000 boxes of silkworms were distributed in 2020 with an expected yield of 800 tons, only 446 tons were actually procured. A downward trend is also observed in the company’s production volumes for 2019–2020 (Table 2). While a more than 25% increase in silkworm production was anticipated by the end of 2020 compared to the previous year, the outcome was quite the opposite — raw cocoon procurement declined by 30%.

**Table 2.**  
**" Technical and economic indicators of "Azeripek" LLC for 2019-2023 <sup>8</sup>**

Contents	Unit of meas.	2019	2020	2021	2022	2023
Total output	thousand manat	3282	2892	3040	4820	5668
Average number of employed persons	person	417	319	298	304	297
Labor productivity	manat	7870	9066	10201	15855	19084
Average cost of machinery and equipment	thousand manat	878	1178	3453	3576	3503
Average monthly wage	manat	243	338	403	451	513

Consequently, the company’s total output in 2020 dropped by 22% compared to the previous year, amounting to 2.892 million AZN.

---

<sup>8</sup> " Compiled by the author based on information obtained from "Azeripek" LLC.

Despite this, a 15% increase in labor productivity during the same year highlights the need to better leverage existing opportunities and resources. Although sales volume increased by 251,000 AZN in 2023 compared to 2022, reaching 4.296 million AZN, it still fell short of 2021 levels by 3.385 million AZN. Export figures also reflect this downward trend: exports accounted for 6.842 million AZN in 2021, 2.893 million AZN in 2022, and 3.030 million AZN in 2023. The use of outdated technology continues to negatively impact product quality and leads to production costs exceeding acceptable levels. Therefore, significant improvements are needed at “Azeripek” LLC, including the repair or replacement of equipment to modernize production facilities.

The required main economic indicators for the econometric estimation of productivity ( $Y_1$ ), profit per centner ( $Y_2$ ), and profitability (return) of sold grain crops ( $Y_3$ ) in the Shaki–Zagatala region are provided in Table 1. In this part of the study, from the standpoint of model adequacy, it was deemed more purposeful to estimate the econometric model for profit per centner as a function of cost per centner, labor cost per centner, selling price per centner, and product volume per manat.

Thus, for the Shaki–Zagatala economic region, the regression equation that expresses the relationship between profit per centner, cost per centner, labor cost per centner, selling price per centner, and output volume per manat is generally formulated as:

$$\ln(Y_2) = a_0 + a_1 \ln(X_1) + a_2 \ln(X_2) + a_3 \ln(X_3) + a_4 \ln(X_4) + e \quad (1)$$

Here:  $Y_2$  = profit per centner (in manat);

$X_1$  = cost per centner (in manat);

$X_2$  = labor cost per centner (person-hours);

$X_3$  = selling price per centner (in manat);  $X_4$  = output volume per manat (in kilograms);

$a_0, a_1, a_2, a_3, a_4$  = coefficients;  $e$  = stochastic error term.

The econometric estimation of the presented model was carried out over the time intervals covering 2015–2022 (Table 3).

Accordingly, the econometric estimation in EViews of the effect of cost per centner, labor cost per centner, selling price per centner, and output volume per manat on profit per centner in the Shaki–Zagatala region is represented in the general form:

$$\text{LOG}(Y2)=C(1)+C(2)*\text{LOG}(X1)+C(3)*\text{LOG}(X2)+C(4)*\text{LOG}(X3) + C(5)*\text{LOG}(X4) \quad (2)$$

**Table 3.**  
**Main economic indicators of cereal production in the ShakiZagatala economic region <sup>9</sup>**

№	years	Cost of one centner (manat)	Labor cost per quintal (man/hour)	Selling price per centner (manat)	Volume of one manat worth of product (kg)	Yield cents/ha	Profit from one centner (manat)	Profitability of grain crops sold (percentage)
		X1	X2	X3	X4	Y1	Y2	Y3
1	2	3	4	5	6	7	8	9
1	2015	21.86	10.9	32.93	3.04	32.1	11.07	37.8
2	2016	26.10	11.0	36.21	2.76	32.1	10.11	33.8
3	2017	17.18	9.4	30.89	3.24	33.4	13.71	100.6
4	2018	15.09	9.5	33.97	2.94	34.7	18.88	59.6
5	2019	14.96	10.2	38.68	2.59	35.5	23.72	47.5
6	2020	14.79	8.3	32.48	2.86	34.1	17.69	51.4
7	2021	16.31	9.4	38.48	2.60	33.8	22.17	72.1
8	2022	18.69	8.4	47.05	2.13	29.2	28.36	81.9

As a result, the final model evaluated (Figure 1):

<sup>9</sup>Compiled based on grain fund data.

$$\text{LOG}(Y2)=-4,178797-1,225658*\text{LOG}(X1)-0,438199*\text{LOG}(X2)+2,915080*\text{LOG}(X3)+1,079178*\text{LOG}(X4) \quad (3)$$

The probabilities of whether the appropriate coefficients found by the model are incorrect or not indicate the adequacy of the model with the assumed confidence levels of 90%, 95%, and 99%:

Prob: (0,0814) (0,0001) (0,0373) (0,0044) (0,0791)

Standard errors of the fitted coefficients:

Std.Error: (1,616229) (0,048367) (0,122456) (0,374414) (0,412243)

R-squared=0,998792; Adjusted R-squared=0,997182

Durbin-Watson stat =1, 889957

(3) The numbers written in parentheses under the obtained appropriate parameters of the regression equation: Prob - proves the extent to which the coefficients obtained from the regression equation are correct. Std.Error - standard error of the parameters (SS); R-squared ( $R^2$ ) - coefficient of determination; Adjusted Rsquared ( $R^2_{ads}$ ) - shows the adjusted coefficient of determination; Durbin-Watson (DW) - Durbin Watson statistics. (Figure 1).

The main results of the evaluation of the model expressed by the regression equation (1)-(3) in EViews TPP are given in Figure 1.

The indicators showing the adequacy of the model as a whole, heteroscedasticity, autocorrelation, stationarity, normality tests and their evaluation results are given in the appendices (p. 154).

(3) The statistical characteristics of the econometric model given in Figure 1 and the appendices show that the obtained model is quite adequate. Thus, the standard error of the coefficient characterizing the cost of one quintal (Std.Error=0.048367), which affects the profit from one quintal, is significantly smaller than its value determined by the least squares method (4.178797), the standard error of the coefficient characterizing the labor cost per quintal (Std.Error=0.048367), which is found by the least squares method (1.225658), the standard error of the coefficient characterizing the selling price of one quintal (Std.Error=0.374414), which is found by the least squares method (2.915080), and finally the standard error of the coefficient characterizing the volume of one

manat of product (Std.Error=0.412243), which is found by the least squares method (1.079178), and therefore the model is significant with a significance level according to the t-test.

Dependent Variable: LOG(Y2)

Method: Least Squares

Date: 11/03/24 Time: 22:04

Sample: 2015 2022

Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.178797	1.616229	-2.585522	0.0814
LOG(X1)	-1.225658	0.048367	-25.34093	0.0001
LOG(X2)	-0.438199	0.122456	-3.578430	0.0373
LOG(X3)	2.915080	0.374414	7.785709	0.0044
LOG(X4)	1.079178	0.412243	2.617822	0.0791
R-squared	0.998792	Mean dependent var	2.844629	
Adjusted R-squared	0.997182	S.D. dependent var	0.369414	
S.E. of regression	0.019609	Akaike info criterion	-4.756477	
Sum squared resid	0.001154	Schwarz criterion	-4.706826	
Log likelihood	24.02591	Hannan-Quinn criter.	-5.091353	
F-statistic	620.3351	Durbin-Watson stat	1.889957	
Prob (F-statistic)	0.000105			

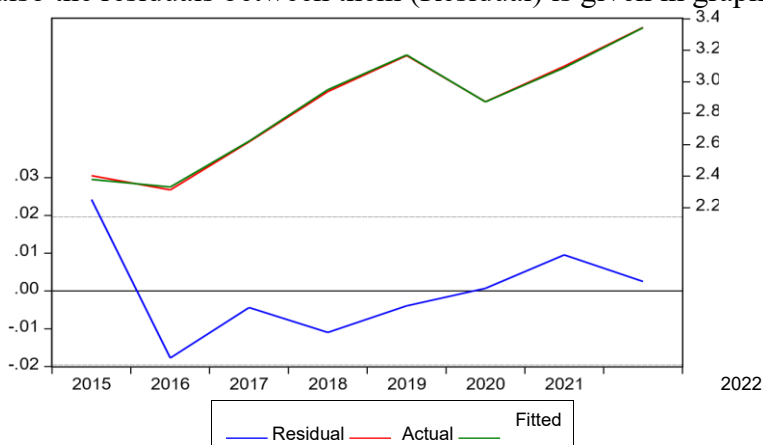
**Picture 1. Main indicators of the model of econometric estimation of profit per quintal of grain production in the ShekiZagatala economic region in 2015-2022 in EViews TPP**

Thus, it can be concluded from model (3) that the statistical characteristics obtained in EViews TPP and the corresponding tests indicate that the model is adequate.

So, as a result, it can be noted that a 1% increase in the cost of one centner of grain production in the Sheki-Zagatala economic

region, The profit from one centner is 1.23% negative (i.e. 1.23% decrease), the labor cost per centner is 1% increase, the profit from one centner is 0.44% negative (i.e. 0.44% decrease), the selling price of one centner is 1% increase, the profit from one centner is 2.92% positive (i.e. 2.92% increase) and finally the profit from one manat is 1.08% positive (1.08% increase). This result is also shown by the elasticity coefficients of the corresponding coefficients obtained from the model by the least squares method during the considered periods (1.225658; 0.438199; 2.915080 and 1.079178).

(3) Actual - real profit from one centner with the prices (Fitted) obtained from the model The difference between the (Actual) prices is quite small. Their curves are very close to each other as shown in the graph (green and red curves). The calculation of this difference and also the residuals between them (Residual) is given in graph 4.



**Graph 3. Dynamics of the difference between the prices obtained from the model of econometric assessment of the profit from one centner of cereal production in the Sheki-Zagatala economic region in 2015-2022 and the actual prices**

Thus, the econometric model implemented in the study once again proved the significant impact of the cost of one centner of cereal production in the Sheki-Zagatala economic region, labor costs per

centner, selling price per centner, and finally the volume of one manat of product on the profit from one centner.

If certain investments are made in new equipment and technology, training of highly qualified specialists, labor costs will decrease, and on this basis, a high level of profit can be observed by working more productively. In this case, the experience of Canada can be used. Thus, Canada, despite its limited arable land and unfavorable climatic conditions, is among the leading grain producers and suppliers in the world. The main reason for this is the proper use of human capital, improvement of the technological base, and the use of productive agricultural practices.

By researching the activities of tourism enterprises in the research, it can be concluded that it is important to move tourism from a seasonal to a permanent nature. At present, the development of tourism, which is one of the traditional activities of regional enterprises, is not at the required level. Given the low level of service at existing facilities providing services in the field of tourism, the necessary work should be done to eliminate the inexperience of those serving in this field and this shortcoming. In order to support the development of tourism, attention should be paid to the development of guides with detailed knowledge of historical monuments, other recreational facilities of interest to tourists, knowledge of foreign languages and other necessary qualities. Exhibitions should be organized to promote the tourism potential of the underdeveloped regions (Oguz, Balakan, Zagatala) and provide the necessary support to entrepreneurs wishing to invest in this area. In particular, the number of hotel services that meet three-star standards is small, and there are no favorable conditions for middle-class tourists who want to visit the region. With this in mind, the existing gap in the market should be explored through active marketing activities and new hotels should be built.

In the third chapter, titled “**Prospective Development Directions of Specialization for Enterprises in the Shaki-Zagatala Region,**” the advantages of establishing joint ventures in the region,

as well as the development prospects of both traditional and emerging specialization sectors of regional enterprises, are examined.

The growth of local markets, cost-cutting measures, rising demands for higher levels of specialization, the emergence of free economic zones, and other factors have increased the influence of economic associations within the business environment. Often, this impact extends beyond individual regions, reaching both national and international levels. Companies situated nearby and collaborating closely have contributed to the integrated development of these areas. Such economic associations—where one entity (company, organization, enterprise, etc.) complements another—are crucial for the long-term, sustainable growth of regions, functioning similarly to industrial clusters.

When forming economic associations, special attention must be given to the introduction of new equipment and technologies, considering spatial aspects such as natural-climatic and geographical features, as well as the distinctive characteristics of the region. It is essential to assess their long-term operational efficiency. First and foremost, it is important to establish a normative-legal framework that reflects the region's interests, socio-economic direction, and specialization, while determining the optimal location of economic associations from the standpoint of national interests and security. Taking these factors into account, economic associations will encompass various forms—from companies providing services and producing final consumer goods to suppliers of production factors, component manufacturers, and service providers, as well as financial institutions supporting special training, information gathering, and research activities, including government and private organizations.<sup>10</sup>

---

<sup>10</sup> Aliyeva, Sh.I. *Advantages of the cluster-type structure of enterprises of the ShekiZagatala region, the role of the transport-transit sector in the development of the socio-economic infrastructure of the region // The role of Azerbaijan's transit potential in economic development. Materials of the Republican scientific conference, - Sumgayit: SDU, - 2020, №6, s. 318-321*

The optimal placement of economic associations not only ensures the long-term development of the region but also contributes to solving national socio-economic issues. Strong enterprises form the core of these associations, attracting numerous small and medium-sized businesses around them, thereby maintaining competition within a specific area. It is important to note that economic associations create a complex combination of both competition and cooperation.<sup>11</sup>

Restrictive difficulties in the region lead to economic weakness, which leads to unfavorable competition in local and foreign markets. Obsolescence of machinery and equipment, application of production methods in the past, improper use of fertilizers, mistakes in the planting process reduce productivity. Entrepreneurs were unaware of the latest management trends, and in this regard, their cooperation is unfavorable. Therefore, intelligent specialization in the region is essential for truly effective research and innovative investment. Smart specialization means finding the unique characteristics and assets of each country and region, highlighting the competitive advantages of each region, and gathering regional partners and resources around goals for the future. It also means strengthening regional innovation systems, reducing the flow of knowledge and spreading the benefits of innovation to the entire regional economy.

At present, agricultural enterprises do not yet have a structural change that will lead to intensive production. From this point of view, the production technology must be modernized in order to use the existing potential in the economic region at the required level. Improved technology is being used in agriculture to ensure steady increases in productivity and production. The large amount of arable land may not in itself be a comparative advantage for a region. Because what is important here is the amount of production. This is possible only with the application of maximum modern technology,

---

<sup>11</sup> *Nazarov, P.V. Formation of the foundation for long-term prospective regional development / P.V. Nazarov, A.A. Gorbunov // Region: politics, economics, sociology. – 2009. – No 1–2. c.92*

as mentioned above. At present, the level of productivity in the world is considered as an indicator of the technology used after a certain point.

Although the activity of grain farms has expanded, the lack of machinery at harvest time remains an unresolved problem in the region. Agricultural enterprises and farmers face various problems due to lack of machinery during the harvest. Thus, the lack of equipment leads to crop losses in the fields, and as a result, farmers are justifiably dissatisfied. Also, the use of manual labor in transplanting seedlings increases the productivity of the product and, ultimately, the cost of production. Taking this into account, assistance should be provided in the transfer of agricultural machinery (combine harvesters, tobacco seedlings suppressing units, etc.) to the region, or new enterprises specializing in leasing services should be established.

There are similar problems in hazelnut growing, which is a promising area of activity of regional enterprises. Hazelnuts exported from Azerbaijan lose their competitiveness in foreign markets due to the lack of certified products in terms of food safety, as well as noncompliance with international standards and requirements. Thus, enterprises use outdated equipment and technology, which is quite costly. The formation of enterprises with modern equipment, innovative equipment and laboratories will ensure the export of certified high-quality products to potential foreign markets.

If the application of technical and technological innovations to enterprises is the main requirement of modern times, then there is a great need for qualified personnel with special professional skills to use this technology. From this point of view, in order to apply new techniques rich in numerous functions, first of all, it is necessary to renew human resources and attract highly qualified professionals. Therefore, serious attention should be paid to vocational training in the region, training of mid-level personnel, along with the training of highly educated, highly qualified personnel, as well as the training of mid-level specialists.

When we examined the economic potential of enterprises operating in the Shaki-Zagatala region, it became clear that there is a great potential for the development of both traditional and new areas of activity. By using this potential effectively and correctly, it is possible to further increase the profitability and competitiveness of enterprises. As can be seen from the analysis, the directions of development of enterprises are different depending on the specific characteristics of each region in the region. Thus, while the number of grain farms and tourism enterprises is increasing in Shaki region, the enterprises operating in Balakan and Zagatala regions specialize in the production and export of hazelnuts. The Gabala region is dominated by enterprises specializing in the food industry. However, the use of the region's potential is still insufficient. When we study the geographical and economic potential of each region, it becomes clear that relatively neglected areas should be developed and enterprises should be established in new areas.

It is the support of existing enterprises to support the production of environmentally friendly agricultural products by applying innovative and organic cultivation methods, ecologically sustainable production based on the cultivation and processing of regional products (hazelnuts, flowers, tea, bee products), promotion of agrarian processing initiative, application of sustainable development by applying the principles of circular economy, taking into account the interdependence of cause and effect, which will also contribute to the development of agrarian industry based on innovation and new skills.

On the other hand, the development of tourism as a sustainable socio-economic sector of the economic region should be encouraged, the region's tourism products - rural tourism, culture and eco-tourism sector should be developed for both tourists and locals.

## CONCLUSION

The research on traditional and emerging specialization areas of enterprises in Azerbaijan's Shaki-Zagatala economic region focused on identifying priority sectors and initiatives with the highest potential to foster sustainable economic growth, reduce unemployment, and address regional inequalities. In light of modern demands, the findings can be summarized with the following conclusions and recommendations:

- Since the economic development of enterprises in the region is interconnected, it is not feasible to consider the development of agriculture, industry, or services in isolation. Agricultural and industrial enterprises in the region are linked through cause-and-effect relationships.

- To enhance the export potential of industrial enterprises, it is essential to improve their access to raw materials, increase not only the volume but also the quality of production, and support the modern packaging of products as well as their efficient marketing and distribution.

- Identifying new export opportunities for enterprises and improving the efficiency of sales and market entry processes requires the development of supply, storage, and distribution systems. In this regard, the establishment of logistics enterprises should be supported.

- To transition from extensive to intensive development, it is crucial to modernize production technologies within enterprises. High technologies play a key role in enhancing speed and efficiency, reducing production costs, and increasing output, making technological upgrades essential.

- According to a model based on grain production in the ShakiZagatala economic region:

- A 1% increase in the cost price per quintal results in a 1.23% decrease in profit per quintal.

- A 1% rise in labor input per quintal leads to a 0.44% drop in profit.

- Conversely, a 1% increase in the selling price per quintal boosts profit by 2.92%.

- Similarly, a 1% growth in the production volume per manat leads to a 1.08% increase in profit per quintal.

- These results indicate a strong negative correlation between labor costs and profitability. Therefore, investing in modern machinery, advanced technologies, and the training of skilled professionals could significantly lower labor costs and increase overall profitability.

- The analysis conducted for the region has helped identify key resources and confirms that, in the future, it would be advisable for the constituent districts to focus their specialization on innovative agriculture and tourism development based on the principles of a green economy.

### **Recommendations Arising from the Findings:**

- In order to apply intensive methods in agriculture (specifically in grain production, fruit growing, hazelnut and persimmon cultivation), it is advisable to scientifically justify the role of largescale farms. The formation of production-supply-sales cooperatives on a voluntary basis, as well as the establishment of agro-parks and large-scale farming enterprises on available reserve lands, is considered appropriate.

- Due to the lack of grain storage facilities, many farmers are forced to sell their harvested products at lower prices directly from the field. Therefore, it is recommended to establish storage facilities to ensure continuity in the production and sales process.

- Given that Balakan ranks among the leading regions in corn production and has a strong raw material base, it is advisable to develop a corn oil processing industry in the area to support local agro-processing.

- The Kish River basin possesses a significant raw material base for capital construction. Therefore, increasing the extraction of river

stone and gravel from this area and organizing their distribution in domestic markets is recommended.

- Considering their traditional reputation, profitability, and existing market demand, it is advisable to increase rice cultivation in the Zayzid and Kungut villages of Shaki district, as well as soybean production in the Zagatala district.

- Given the need for poultry and livestock enterprises to feed animals with vitamin-enriched, mineral-supplemented compound and concentrated feed, establishing a feed processing facility in the region would contribute to increased livestock production and serve as a priority area for poultry development.

- The establishment of new processing facilities for nutbearing fruits is recommended. To enhance the profitability of hazelnut processing enterprises, maintaining high product quality is essential.

- Considering the rich nutrient content of persimmon (such as iodine), it is advisable to conduct research into advanced processing methods that would allow for more efficient use of the product, including applications in the pharmaceutical and healthcare industries.

- In light of the high costs associated with importing seedlings, it is recommended to reduce dependence on imported saplings by importing fruit seeds instead and establishing local nurseries for seedling cultivation.

- It is necessary to prioritize intensive horticulture by restructuring existing orchards toward export-oriented production or establishing new orchards with suitable fruit varieties.

- To improve the performance of grape processing enterprises, implementing a plantation-to-consumer supply chain model is essential. Establishing new grape plantations as a raw material base would also support the development and expansion of the region's wine production industry.

- In order to retain raw materials within the region, supporting tobacco processing enterprises and modernizing them to meet current industry standards is crucial.

Reducing labor intensity and production costs during the transplantation of tobacco seedlings requires the adoption of modern machinery and advanced technologies in tobacco farming.

- Given Zagatala's long-standing tradition of tea cultivation, expanding current tea plantations and ensuring end-product manufacturing is strategically important. Government support is recommended to enable tea processing enterprises to operate at full capacity.

- With the region's rich reserves of medicinal plants, establishing processing facilities could yield substantial income. The development of enterprises for collecting and processing wild and medicinal herbs would be advantageous due to their eco-friendliness and low production costs.

- Expanding the orchards of the Golden Delicious apple variety in the Sheki district, improving irrigation in the villages of Shekikend where grapes and strawberries are grown, and prioritizing the production of export-oriented products are essential. Farms specializing in vegetable production in the Cumakend area of the district should be considered a priority sector.

- Balakan district, a border region with transit significance, allows for the development of export-oriented open-field vegetable growing and the establishment of greenhouses that meet modern standards for this purpose.

- It is necessary to create facilities for storing melons, vegetables, potatoes, fruits, and grapes, and in this regard, building large-capacity, modern refrigerated storage and preservation chambers in the region is crucial. Since the timely sale of fresh products is not ensured, causing losses to producers, it is advisable to take comprehensive state-level measures to organize the procurement and sale of products both domestically and in foreign markets to minimize such losses. Increasing the number of procurement and storage chambers in the region ensures the utilization of products after the season, allows producers to follow market prices and place products on the market at appropriate times and prices, ensures

consumers can find products in markets for extended periods, and supports the uninterrupted operation of processing enterprises.

- Since importing mineral fertilizers from afar increases production costs, establishing a mineral fertilizer production facility is recommended.

- For effective specialization in the region, the formation of clusters and the establishment of logistics centers are recommended.

- During priority specialization, adapting agriculture to new conditions by considering climate change and using drought-resistant varieties have been justified as important factors.

- Agriculture, being both an economic and strategic sector, acts as a risk mitigator by providing insurance against natural factors. In this regard, applying Turkey's experience in establishing an insurance system for producers is advisable.

- It is essential to form value chains, gain access to new markets, ensure exchange of experience regarding production technologies, and foster cooperation between relevant government bodies and enterprises.

- The development of agro-tourism and hunting tourism has been justified, with recommendations to increase the number of tourism and entertainment facilities, hotels, and to apply Turkey's experience in this field.

- To improve the scientific base and workforce of enterprises, priorities include training highly educated specialists as well as midlevel qualified experts capable of using modern technology.

**The main content of the study is reflected in the following works published by the author:**

1. Aliyeva Sh.I. Industrial structure of Shaki-Zagatala economic region // Materials of the republican scientific conference on "Ways to increase the competitiveness of the economy.", Sumgayit: SSU, - October 17-18, - 2017, - p. 217-220  
[https://www.sdu.edu.az/az/conference\\_materials](https://www.sdu.edu.az/az/conference_materials)

2. Aliyeva Sh.I. Current situation and development trends of agriculture in Shaki-Zagatala economic region // Materials of the International Scientific Conference on "Economic security, current situation and prospects", - Sumgayit: SSU, - May 2-3, - 2018, - p. 170-172

[https://www.sdu.edu.az/userfiles/file/conferences/11q\\_konfrans\\_mater%20c4%b0alları.pdf](https://www.sdu.edu.az/userfiles/file/conferences/11q_konfrans_mater%20c4%b0alları.pdf)

3. Aliyeva Sh.I. Perspective directions of tourism development in Shaki-Zagatala economic region // Materials of XXII Republican scientific conference of doctoral students and young researchers, - Baku: Azerbaijan State Pedagogical University, - November 22-23, - 2018. Volume I, - p. 289-291

4. Alieva Sh.I. The main areas of specialization of enterprises in the Shaki-Zagatala region of Azerbaijan in modern conditions // Philadelphia, USA: International Scientific Journal Theoretical & Applied Science, - 2018. No. 3 (59) - p. 281-289  
<https://elibrary.ru/item.asp?id=32775474>

5. Aliyeva Sh.I. Prospects for hazelnut production and processing in the Shaki-Zagatala economic region // Baku: Scientific works of the Scientific Research Institute of Agricultural Economics, - 2018. №1 - p. 85-88

6. Aliyeva Sh.I. Current situation and development prospects of textile industry in Shaki-Zagatala economic region // Baku: "Azerittifaq" Azerbaijan Cooperation University, Cooperation scientific-practical magazine, - 2019. №3 (54), - p. 95-99  
<http://www.kooperasiya-journal.az/wp-content/uploads/2022/02/3-2019.pdf>

7. Aliyeva Sh.I. The role of state programs in the specialization of enterprises of the Shaki-Zagatala region // Baku: BSU, Journal of Economic and Political Sciences of Baku State University, - 2019. №4 (17), - p. 8-19

<https://journal.maarif.az/wp-content/uploads/2020/03/Jurnal-4-17-2019.pdf>

8. Aliyeva Sh.I. Factors influencing the activity of enterprises in Shaki-Zagatala region - macroenvironment // Baku: "Silk Road" magazine, scientific journal of Azerbaijan University, - 2019. №4, - p. 32-39

[https://www.au.edu.az/uploadfiles/menu/ipekyolu/2019\\_4/3\\_Eliyeva Sh.pdf](https://www.au.edu.az/uploadfiles/menu/ipekyolu/2019_4/3_Eliyeva Sh.pdf)

9. Aliyeva Sh. I. Food security and development of agriculture in the Shaki-Zagatala region// Actual problems of ensuring the economic security of the state, regions, enterprises, Collection of scientific articles of the III International Scientific and Practical Conference. - Ufa: UGNTU Publishing House, - May 29, - 2019, p. 3-5

<https://elibrary.ru/item.asp?id=41156188>

10. Aliyeva Sh. I. The main directions of development of traditional and promising sectors of the economy in the Shaki-Zagatala region of Azerbaijan // Tolyatti: Institute of Directed Vocational Education Azimut of Scientific Research. Volume 9, No. 1 (30), - 2020, - p. 37-41 <https://elibrary.ru/item.asp?id=42572180>

11. Alieva Sh.I. Assessment of tourism development in ShakiZagatala economic district // France Los Angeles, USA: Association 1901 "SEPIKE" Social Educational Project of Improving Knowledge in Economics Journal SEPIKE Edition 26 Frankfurt, Deutschland Poitiers, - 2020, s. 4-14 <http://dSPACE.snu.edu.ua:8080/jspui/bitstream/123456789/3239/1/%D0%9C%D0%BE%D1%80%D0%B3%D0%B0%D1%87%D0%BE%D0%B211.pdf>

12. Alieva Sh.I. Current situation and development of grain growing in Shaki-Zagatala economic region// Dedicated to the 97\_ Anniversary of the National Leader of Azerbaijan, Heydar Aliyev IV

international scientific conference of Young researchers Baku engineering university, - Baku: Azerbaijan Proceedings, -2020, - s. 556-560

[http://yric.az/books-2020/Section\\_3.pdf](http://yric.az/books-2020/Section_3.pdf)

13. Aliyeva Sh.I. Enterprises specializing in the processing of fruits and vegetables in the Shaki-Zagatala economic region // Modern means of communication materials of the XXV International Scientific and Technical Conference, - Minsk: Belarusian State Academy of Communications, -2020, -p. 249-250

<http://bsac.by/pages/xxvi-mezdunarodnaa-naucno-tehniceskaa-konferencia-sovremennye-sredstva-svazi>

14. Aliyeva Sh.I. Current state and development prospects of livestock in Shaki-Zagatala region // Materials of the online scientific conference of young researchers and doctoral students dedicated to the 100th anniversary of the Azerbaijan State University of Oil and Industry, - Baku: - 7-8 May, - 2020, p. 997-1001

15. Aliyeva Sh.I. Current situation and development of vocational education institutions in Shaki-Zagatala region // Economic security: current situation and prospects. Materials of the international scientific conference, - Sumgayit: SSU, - July 8-9, - 2020. №4, - p. 327-329

<https://www.ssu-conferenceproceedings.edu.az/pdf/iqtisadiyyat.pdf>

16. Aliyeva Sh.I. Advantages of cluster structure of enterprises of Shaki-Zagatala region, the role of transport and transit sector in the development of socio-economic infrastructure of the region // Materials of the republican scientific conference on the role of Azerbaijan's transit potential in economic development, - Sumgayit: SSU, - 2020. №6, - p.318 -320

<https://www.ssu-conferenceproceedings.edu.az/pdf/iqtisadiyyat-2.pdf>

17. Aliyeva Sh.I. Development directions of specialization of regional enterprises (on the example of Shaki-Zagatala region), // - Sumgayit: Scientific News of Sumgayit State University, Department of Social and Human Sciences, - 2021. Volume 17, №1 - p. 74-77

<https://elibrary.ru/item.asp?id=46202332>

18. Aliyeva Sh.I. Formation of a favorable business environment in the region as a priority of economic policy // Materials

of the international conference "Reconstruction and recovery in post-conflict situations" dedicated to the 100th anniversary of ADNSU, - Baku: ADNSU, - February 25-26, - 2021, - p. 292-299

19. Aliyeva Sh.I. Aspects of development of beekeeping in the region (on the example of Shaki-Zagatala region) // Materials of the Republican scientific conference on "Regional economy: modern aspects and current issues", - Sumgayit: SSU, - April 22-23, - 2021, - p. 55-59

20. Aliyeva Sh.I. Complex development features of the economy of Shaki-Zagatala region // VIII International Research Symposium On The Turkic World, - Niğde: - 2-5 June, - 2021. Volume II, -p.591-598

<https://drive.google.com/file/d/1dtbIfyPYQXHSbePwlr9zeCUMktZDcr8F/view>

21. Aliyeva Sh. I. Advantages and disadvantages of distance learning in regional universities in a pandemic (on the example of the Shaki-Zagatala economic region) // Materials of the International scientific Internet conference "Universe of university" Yekaterinburg: Ural Institute of Management - a branch of the Russian Academy of National Economy and Public Administration under the President of the Russian Federation, - 18 May, - 2021, - p. 9-12

<https://elibrary.ru/item.asp?id=46693536>

22. Assessment of agricultural specialization efficiency of enterprises in Sheki-Zagatala region// Baku: Azerbaijan National Academy of Sciences Institute of Economics, Economic Growth and Public Welfare,-2022.№1-p.24-40

<http://economics.com.az/index.php/kitabxana/bizim-s-rl-r/jurnalla/elmeserler/item/2554-izhtisadi-art-m-vae-idztimai-rifahzhurnal-1-2022.html>

23. Alieva Sh.I., Gasimova Z.M., Aliyeva S.Y.,Kocharli H.R. Evaluation of theactivities of agricultural products processing enterprises in Azerbaijan and directions of their development//Alfred Nobel University, -Academy review, -2025, №2(63) ,- səh 264-277

<https://acadrev.duan.edu.ua/index.php/en/issues/15720252/196academy-review-2025-2-63>



The defense will be held on 31.10.2025 at 14<sup>00</sup> at the meeting of the Dissertation council BFD 4.26 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at the Azerbaijan State Oil and Industry University

Address: AZ 1010, Baku city, Azadlig Avenue, 34

Dissertation is accessible at the library of the Azerbaijan State Oil and Industry University.

Electronic versions of dissertation and its abstract are available on the official website of the Azerbaijan State Oil and Industry University ([www.adnsu.edu.az](http://www.adnsu.edu.az)).

Abstract was sent to the required addresses on 01.10.2025

Signed for print: 30.09.2025  
Paper format: 60 x 84 1/16  
Volume: 43199 symbols  
Number of hard copies: 100