

ECONOMIC-GEOGRAPHICAL CHARACTERISTICS OF THE FORMATION OF THE ECONOMIC STRUCTURE IN THE SHIRVAN-SALYAN ECONOMIC REGION

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Abstract

In the Shirvan-Salyan economic region, which is the focus of our study, the presence of oil, natural gas, and iodide-bromine waters provides an opportunity for the development of fuel-energy and chemical industry sectors. At the same time, there is great potential for the development of light and food industry sectors based on the processing of agricultural products. However, the economic difficulties that emerged during the transition period led to a decline in output in the region's leading economic sectors and changed their role in the economy. At present, an economic-geographical analysis of the changes occurring in the formation of the economic structure in the Shirvan-Salyan economic region, and the study of new economic management principles, are required. It is precisely in this context that the research conducted has led to the identification of new economic management principles.

1. Introduction

In the modern era, the formation and future development of the sectoral and spatial structure of the economy are influenced by economic principles (supply and demand). Natural-geographical conditions and economic-geographical factors can also be included among these influences. As a result, leading sectors of the economy such as industry, agriculture, socio-cultural service facilities, transportation-communication lines, etc., develop to varying extents. However, it should not be forgotten that the development of the leading sectors of the economy at the regional scale is measured at different levels. The formation of this diversity is determined primarily by factors such as the availability of natural resources and their utilization, the specialization directions of industrial and agricultural sectors, the labor skills of the population, their consumer potential, the economic-geographical position, etc.

Studying the current state of the sectoral structure of the economy, its historical-geographical development characteristics, and its prospective development directions is of significant scientific and practical importance. In the current context, it is necessary to determine the unique characteristics of regions and the ways to efficiently use the existing potential opportunities. To

this end, the continuous conduct of scientific research is one of the essential conditions.

The object of the research is the economic-geographical characteristics of changes in the economic structure, studied using the example of the Shirvan-Salyan economic region. This economic region is located in the east of the country, in the lower reaches of the Kura and Araz rivers, on the shores of the Caspian Sea. The area's favorable economic-geographical position is determined by its location on the "North-South" and "Silk Road" transport corridors.

The Shirvan-Salyan economic region comprises the Shirvan city district and the Bilasuvar, Hajigabul, Neftchala, and Salyan administrative districts. Its area is 6.08 thousand km², and its population at the beginning of 2024 was 494.8 thousand people, including 231.3 thousand urban residents. The share of the economic region in the country's total area is 7.02%, and in total population 4.86%, including 4.17% of the urban population [5, s. 69, 83-88]. The role of this economic region in the country's economic structure is determined by the development of oil and natural gas extraction, electricity production, and the chemical, light, and food industry sectors. In agriculture, cotton-growing, grain cultivation, and fruit-growing are the leading sectors [9, 12]. The major urban centers of the region, Shirvan and

Hajigabul, are located on international and national transportation-communication routes and play a significant role in establishing regional economic-geographical connections.

2. Materials and Methods

In conducting the research, data from the Azerbaijan State Statistical Committee on industry, agriculture, and population employment were used, as well as census materials for the years 2009 and 2019.

The analyses were carried out with the help of mathematical-statistical methods, comparative analysis, and a historical-geographical approach.

3. Analysis and Discussion

For many years, the shelf zone of the Caspian Sea and oil-gas production have played an important role in the formation of a stable sectoral structure of Azerbaijan's economy. The high level of resource extraction has caused the oil-gas industry and its export to assume a leading position in the economic structure [9, 11]. These sectors provide the main portion of the country's GDP and industrial output. Calculations and analyses show that in 2007, 63.08% of the country's GDP was provided by industrial sectors. In the period up to 2022, there were few fundamental changes in this share, and it was recorded at 59.16% (Table 2). For many years, more than 90.0% of the country's industrial output has been accounted for by the oil-gas industry. Therefore, the share of other economic sectors remains low. This situation has arisen because enterprises in the machine-building, metallurgy, and chemical industries - sectors which are typically strategic and leading - operated weakly or not at full capacity, and their technological equipment became outdated, resulting in a failure to produce competitive products. For this reason, their share in the economic structure has remained low.

Agriculture, the second most important sector of the economy, accounts for only about 7–8% of GDP [4]. Here too, the significance of stra-

tegitically important sub-sectors that have high soil and climate potential is low, productivity is poor, and the measures taken to develop the sector are insufficient. Consequently, the share of agriculture remains small, and the volume of agricultural production does not permit the establishment of robust light and food industry sectors. As a result, a serious imbalance has emerged among the shares of various sectors in the structure of the national economy. To address this problem, substantial measures of state importance need to be implemented.

The Economic Region's share in the national economic structure. In the Shirvan-Salyan economic region, the sectoral structure of the economy - and its role in the spatial organization of the national economy and in socio-economic development - is primarily determined by the oil and gas resources and their exploitation, electricity production, and the specialization of its agricultural sectors (Table 1). Although these sectors developed over many years, they underwent fundamental changes during the years of independence. These changes are reflected both in the shifting share of individual sectors in the region's economic structure and in changes in the region's role within the country's socio-economic potential.

The territory of the Shirvan-Salyan economic region is small, and it contains few large mineral deposits of national significance. The modest oil and natural gas extraction in the region takes place in Neftchala and Salyan districts and in the Shirvan city area. Neftchala district has iodide-bromide underground brine waters, and an iodine-bromine plant operating as part of the chemical industry functions there based on these resources. However, extraction of the available natural resources is carried out at a low level. The output of the iodine-bromine plant in Neftchala and the generation capacity of the thermal power station in Shirvan city are both low.

Table 1

Share of the Shirvan-Salyan Economic Region in the National Economic Structure (%)

Economic Sector	Periods			
	2007	2010	2016	2022
Industrial output	1,08	1,04	0,13	1,13
Agricultural output	5,72	5,66	7,23	6,58
- Crop production	5,00	5,31	6,84	6,37
- Animal husbandry	6,93	6,04	7,57	6,79
Output of main sectors	1,88	1,67	2,00	1,78
Investments in fixed capital	2,45	1,41	1,55	1,82

Sources: Azerbaijan's Regions – 2007. Baku: SSC, 2008, pp. 34–39 (711 p.); Azerbaijan's Regions – 2010. Baku: SSC, 2011, pp. 40–45 (768 p.); Azerbaijan's Regions – 2016. Baku: SSC, 2017, pp. 22–27 (804 p.); Azerbaijan's Regions – 2022. Baku: SSC, 2023, pp. 22–27 (865 p.)

The share of the Shirvan-Salyan economic region in the national economic structure is characterized by very low values. First of all, the region's contribution to the country's main sector output has fluctuated between only about 1.67–2.00% since 2007. This figure is very low and has not changed appreciably for a long time; indeed, one can say there was even some decline after 2007. Additionally, the share of industry in the output of the main sectors in the Shirvan-Salyan economic region remains low relative to the national total. For instance, while the region's industrial output constituted 1.08% of the national figure in 2007, by 2022 it was virtually unchanged at 1.13%. Only in 2016 did its share drop to 0.13%. This indicates that in the intervening period, the region had very few industrial facilities of national significance, their production capacity was weak, and their potential to impact overall industrial output was not at the desired level [10].

The Shirvan-Salyan economic region is one of the agricultural regions of the country. Its flat terrain, abundant sunshine, favorable agro-climatic resources, and irrigation water supply allow for the formation of a diversified agricultural structure. The leading agricultural sectors in the region include cotton farming, grain cultivation, animal husbandry, and melon-vegetable growing [7]. However, productivity in these sectors is low; for many years no higher-yield crop varieties have been introduced, and local peasant-farmer operations have limited capacity to acquire them. Therefore, agriculture makes a weak contribution to the region's total output, and its share changes little over time. For example, in 2022 the Shirvan-Salyan economic region produced 6.58% of the country's agricultural products, which is considerably lower than in 2016 (Table 1). Even the two main branches of agriculture - crop production and animal husbandry - have low shares in national output. The share of crop production in the country was 6.37% in 2022, having increased only slightly since 2007, and in the case of animal husbandry one can observe a slight decline.

Investments directed to fixed capital are the main source for the development of economic sectors, the efficient spatial organization of the economy, and the creation of new production and service facilities. They are also a key condition for enhancing the role of regions in the country's development. Although investments are a driving factor of extensive growth, the utilization of local natural-geographical conditions and natural reso-

urce potential remains an important factor as well. However, the volume of centrally directed investments in this economic region is low, and these funds do not suffice for the construction of large-scale facilities, especially enterprises based on processing agricultural products. The share of capital investments going into the region's economy was 2.45% in 2007, but in subsequent periods it ranged only between about 1.4–2.0% (Table 1). Therefore, increasing the volume of capital allocated to the region is essential.

There is a great need to develop an infrastructure network to serve agriculture in the Shirvan-Salyan economic region. This includes creating production infrastructure networks, building warehouses and cold storage facilities, establishing machine-tractor stations (MTS), and organizing vocational-technical education centers.

Economic Structure of the Administrative Districts. The formation of the economic structure in the regions takes place over long historical periods. Agriculture has continuously maintained a leading role. If sources of natural resources of significant economic value are present, then facilities established on the basis of their extraction and processing exert influence on the formation of the economic structure.

In most cases, because a monostructural economy exists in many regions, its composition is determined by one or a few enterprises and by the economic sector to which they belong. Changes to this structure occur when new facilities are built. [9, 12].

In the Shirvan-Salyan economic region, the economic structure is mainly determined by changes in the shares of the industry and agriculture sectors, and by the changing roles of the two leading branches of agriculture within that sector, as well as by the allocation of investments. In this economic region, the majority of output in the leading sectors falls to industry. However, for many years the industrial share has remained virtually unchanged. Since 2007, industrial sectors have provided roughly 36–38% of the region's total output (Table 2). This indicates that for many years the creation of large industrial enterprises in the region has progressed at a slow pace, and the volume of output has not been sufficient to alter the region's contribution within the country.

In Shirvan city, one of the important industrial centers of the country, the bulk of output is provided by industry. The share of oil and gas extraction in the city's industrial output is particularly high. Nevertheless, in recent years, because no

new large enterprises have been established, the share of industry in the city's output has been declining. In the administrative districts, an industrial output share on the order of 20% is considered relatively high. In this regard, the newly established automobile assembly plants in Neftchala and Hajigabul districts, the cannery in Bilasuvar, and oil-gas extraction in Salyan have played a major role. A high industrial share in these administrative districts was observed in 2022; previously, this indicator was recorded at significantly lower levels.

Agriculture is among the leading economic sectors in the region. The share of this sector in the region's total output generally ranges between 27–29%, and in 2022 agricultural production accounted for 27.86%. Therefore, increasing the share of agriculture in the economic structure will require establishing agro-parks, specialized farms, seed-growing farms, and livestock breeding complexes..

In Shirvan city - one of the country's important industrial centers - the majority of output is contributed by industry. However, the share of industry in the city has actually been trending downward. In 2022, the industrial sectors' share of the city's output was recorded at 68.45%, whereas in 2010 this figure stood at 80.61%. Thus, even though many industrial facilities in the city are of regional or national importance, their output share is small and their role in shaping the city's industrial profile is limited (Table 2).

The administrative districts of the region are primarily zones of agricultural production. Consequently, in each district, agriculture occupies a leading place in the value of total output. Individual districts can contribute on the order of 30–50% of their total output through agriculture. Factors influencing this share include the area under cultivation of strategically important crops and the output value of those products, their procurement prices, the largely consumptive nature of agriculture, and how the output of these sectors is valued.

In 2022, the highest agricultural share in output was recorded in Hajigabul district (47.76%), and the lowest in Neftchala district (33.12%). An analysis of the period since 2007 indicates that the share of agriculture in total output did not change drastically in the administrative districts, although some shifts are evident. For example, analysis of the data shows that after 2007 the share of agriculture in the economic structure increased in Bilasuvar district, but decreased in Hajigabul, Neftchala, and Salyan districts. Two factors played a

leading role here and made their impact felt. The first was changes in the cropping structure of agriculture and in the volume of output produced. The second was related to changes in output of other economic sectors - primarily industrial production - or the creation of networks of important socio-cultural service facilities.

It is important to track changes in the share of the two main branches of agriculture (crop production and animal husbandry) in the administrative districts. The products of each of these branches have distinct roles in feeding the population, ensuring food security, and enabling the creation and operation of processing enterprises. Therefore, although which branch occupies the leading position may not be strategically critical at the national level, this factor often needs to be taken into account. Under current conditions (and on average for the economic region), animal husbandry holds the leading role in agricultural output in all the administrative districts except Bilasuvar. However, the dominance between these branches varies in certain years. In the farming areas within the Shirvan city territory, the bulk of output is provided by animal husbandry, which overwhelmingly predominates. In Bilasuvar district, given its favorable natural-geographical conditions, agro-climatic resources, and irrigation water for crop cultivation, crop production plays a very large role. Bilasuvar is the administrative district with the largest sown area of grain crops, and it occupies a leading place in the region for wheat and barley harvest. Therefore, crop production's role there is great. Although the proportionate share of crop production has declined since 2007, it still maintains absolute primacy at present.

In Hajigabul district, about one-third of agricultural output comes from animal husbandry. The gap between the two branches has steadily widened in favor of animal husbandry. This is because crop production's share, which was 47.6% in 2007, fell to 33.68% by 2022. The relatively small role of crop production in the district is also influenced by a smaller cultivated area compared to surrounding districts. For instance, while neighboring districts have over 40 thousand hectares of arable land, Hajigabul has only about 26.3 thousand hectares [7]. This is because parts of the district's territory are occupied by the Great and Little Kharami mountain ranges, the Pirsaat River's channel, and the reservoir built there. Thus, the area available for cultivation is relatively limited.

Table 2

Key indicators of the economic structure in the Shirvan-Salyan economic region (%)

Administrative Unit	Year	Structure of leading sectors of the economy, %			Structure of agriculture, %			Share of investments	
		Production by main sectors	Industrial product	Agricultural product	Agricultural product	Crop production	Animal husbandry	In the country	In the economic district
Shirvan city	2007	100,0	74,13	0,28	100,0	22,28	77,72	0,72	29,54
	2010	100,0	80,61	0,70	100,0	15,42	84,58	0,23	16,40
	2016	100,0	73,29	1,02	100,0	11,42	88,58	0,17	10,69
	2022	100,0	68,45	0,82	100,0	15,54	84,46	0,62	33,98
Bilasuvär district	2007	100,0	1,00	30,15	100,0	73,35	26,65	1,11	45,46
	2010	100,0	4,98	51,93	100,0	64,98	35,02	0,33	23,04
	2016	100,0	12,13	43,39	100,0	71,20	28,80	0,26	16,60
	2022	100,0	27,74	37,82	100,0	68,81	31,19	0,24	13,26
Hajigabul district	2007	100,0	1,64	48,95	100,0	47,64	52,36	0,43	17,48
	2010	100,0	1,84	37,62	100,0	36,79	63,21	0,48	33,63
	2016	100,0	2,06	56,76	100,0	30,52	69,48	0,13	8,30
	2022	100,0	20,44	47,76	100,0	33,68	66,32	0,23	12,83
Neftchala district	2007	100,0	22,11	49,31	100,0	58,15	41,85	0,08	3,08
	2010	100,0	23,92	44,93	100,0	54,85	45,15	0,12	8,28
	2015	100,0	10,83	33,12	100,0	44,28	55,72	0,53	34,35
	2022	100,0	23,14	33,12	100,0	47,30	52,70	0,31	17,19
Salyan district	2007	100,0	18,81	45,11	100,0	42,12	57,88	0,11	4,44
	2010	100,0	15,83	40,25	100,0	35,00	65,00	0,26	18,65
	2016	100,0	21,01	32,89	100,0	31,32	68,68	0,47	30,06
	2022	100,0	20,89	42,38	100,0	49,46	50,54	0,41	22,74
Region total	2007	100,0	36,15	24,42	100,0	54,50	45,50	2,45	100,0
	2010	100,0	36,61	27,63	100,0	48,34	51,66	1,41	100,0
	2016	100,0	31,12	29,62	100,0	43,24	56,76	1,55	100,0
	2022	100,0	37,63	27,86	100,0	48,83	51,17	1,82	100,0
Republic of Azerbaijan	2007	100,0	63,08	8,00	100,0	62,44	37,56	100,0	-
	2010	100,0	58,70	8,14	100,0	51,56	48,44	100,0	-
	2016	100,0	46,97	8,19	100,0	45,76	54,24	100,0	-
	2022	100,0	59,16	7,52	100,0	50,42	49,58	100,0	-

Note: The table shows industry and agriculture's output shares; other sectors are omitted due to incomplete data

Source: Azerbaijan's Regions – 2007. Baku: SSC, 2008, pp. 34–39 (711 p.); Azerbaijan's Regions – 2010. Baku: SSC, 2011, pp. 40–45 (768 p.); Azerbaijan's Regions – 2016. Baku: SSC, 2017, pp. 22–27 (804 p.); Azerbaijan's Regions – 2022. Baku: SSC, 2023, pp. 22–27 (865 p.)

At present, in Neftchala and Salyan districts, the difference between the shares of crop production and animal husbandry is small. However, since 2007, these districts have exhibited opposite trends. In Neftchala district, the share of crop production has tended to decrease, whereas in Salyan district it has tended to increase. In both districts, cotton-growing and grain-growing are key agricultural activities. In recent years, though, a reduction in water flow in the Kura and Araz rivers and difficulties in irrigation have led to a decrease in cultivated area. In Neftchala district, the sown area declined from 60.8 thousand hectares to 46.2 thousand hectares between 2020 and 2022 [7]. This has created conditions for the share of animal husbandry to rise. A reduction in

cultivated area has also been observed in Salyan district.

Investments are one of the main avenues for developing the economic sectors of the administrative districts, restructuring their economic structure, utilizing natural-geographical conditions and resource potential, creating new jobs, and organizing and improving socio-cultural services. However, the volume of investments directed to the regions remains low. This low level of investment is not sufficient for building production and service facilities, creating new jobs, or ensuring the socio-economic and demographic development of the regions.

Analyses show that the share of this economic region in national capital investment does not rise

above about 0.3–0.5% (see Table 2). This is because the Absheron economic region occupies the leading position in capital investments. Even the share of Shirvan city in total national investment was only 0.62% in 2022. In that year, Neftchala district's share was 0.31%, Salyan district's 0.41%, and Hajigabul and Bilasuvar districts' shares were on the order of 0.23–0.24% [2, p. 22–27].

An analysis of the distribution of investments across the administrative districts shows that more than one-third of all capital investment in the region goes to Shirvan city (33.98%). As a result, very small amounts of investment reach the other districts. For Hajigabul and Bilasuvar districts this figure is about 12–14%, and for Salyan district it is 22.74%. In certain years, when projects of special significance are implemented and economic facilities are built in specific districts, the share of investments going to those administrative districts can rise to as high as 30–35%.

4. Conclusion.

Based on the analysis conducted, the following conclusions can be drawn:

- In the Shirvan-Salyan economic region, the extraction of oil and gas has ensured that industry occupies a leading place in the economic structure of its constituent districts. However, because production in these sectors is currently at a low level, it cannot substantially influence the development of other economic sectors in the districts.

- Agriculture spans the entire country and its various regions, covers large areas, and holds a leading place in the employment structure of the population. However, the share of agriculture in the country's GDP has remained low for many years. In this sector, the incomes earned by the population are at a low level. As a result, the share of agricultural output in the administrative districts remains low.

- The low level of capital investment in the administrative districts has a limited effect on enhancing their role in the country's socio-economic development. This is because the funds allocated encounter difficulties in the construction of large-scale regional and national facilities. It is necessary to increase the volume of investments allocated in order to ensure the development of the administrative districts.

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ŞİRVAN-SALYAN İQTİSADİ RAYONUNDA İNFRASTRUKTUR SAHƏLƏRİNİN ƏRAZI TƏŞKİLİ

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Xülasə. İnfrastruktur sahələri əhalinin məskunlaş-ması, məşğulluğunun təmin edilməsi, sağlamlığının bərpası və istirahətinin təşkilində, təsərrüfat sahələrinin fəaliyyətində əhəmiyyətli yer tutur. Bura daxil olan obyektlər şəbəkəsinin sıx-lığı, göstərdiyi xidmətlərin və onu əhatə edən əhalinin sayı ərazilərin inkişaf sə-viyyəsindən, şəhərlər və qəsəbələrin inkişafından, ye-rinə yetirdiyi funksiyalardan, əhalisinin sayından və iq-tisadi po-tensialından asılıdır.

Azərbaycanın regionlarında, o cümlədən Şirvan-Salyan iqtisadi rayonunda infrastruktur sahələri üzrə göstəricilərin əksəriyyəti orta respublika səviyyəsindən xeyli aşağıdır. Bu göstəricilərin aşağı olması səhiyyə, ticarət, pullu xidmətlər, məişət xidməti və turizm sa-hələrinə özünü daha aydın şəkildə özünü göstərir. Ona görə ki, keçid dövrünün çətinlikləri, ayrılan vəsaitlərin azlığı, işçilərin sosial müdafiəsinin aşağı səviyyəsi müəs-sisələrin sayının azalmasına, işçilərin ixtisar edil-məsinə gətirib çıxarır. Ona görə bu sahələrə ay-rılan vəsaitlərin çoxaldılması, özəl müəssisələr şə-bəkəsinin yaradılmasına imkan verilməsi vacibdir.

Məqalədə regionun infrastruktur sahələrinin inki-şafının müasir vəziyyəti, mövcud problemlər, onların həlli yolları təhlil edilir.

Açar sözlər: iqtisadiyyat, istehsal, sənaye, yana-caq-energetika, kənd təsərrüfatı, investisiya.