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# GEOGRAPHY OF CHEMICAL INDUSTRY OF UZBEKISTAN

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## Abstract

The article deals with sectoral and regional aspects of the chemical industry in Uzbekistan. The structure of production of the main products of this industry, grouping by production volume, and the regional structure of the chemical industry are described. Also, from an economic and geographical point of view, the dynamics of the development of regional chemical enterprises in 2000-2020 is analyzed.

**Key words:** chemical industry, network structure, territorial structure, chemical industrial enterprise, natural, socio-economic opportunities, mineral resource base, natural, labor and financial resources.

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**Enter.** In recent years, in the rapid development of the chemical industry in Uzbekistan, taking into account the natural, socio-economic capabilities and local characteristics of the regions, a number of reforms are being implemented to place chemical enterprises and improve its territorial structure, and significant positive results are being achieved. In particular, in the 22nd goal of the development strategy of New Uzbekistan, important tasks such as "Development of the chemical and gas-chemical industries and the production of products worth 2 billion US dollars in the chemical industry by increasing the level of natural gas processing from 8% to 20%" [1] are defined. In this regard, scientific research aimed at determining the impact of the chemical industry on the socio-economic development of the republic, studying the changes in its network and territorial structure is of great importance.

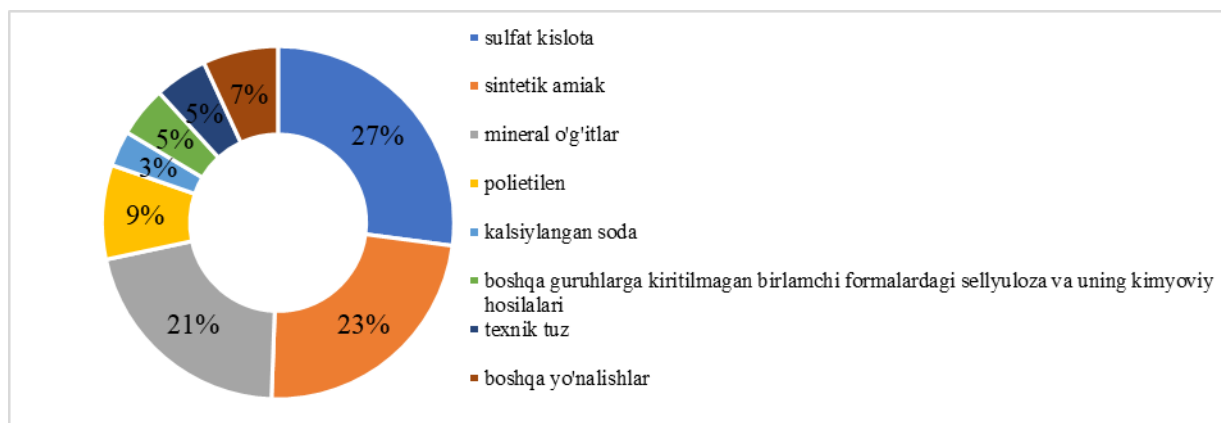
**Research object and methods.** The chemical industry of Uzbekistan was taken as the object of research. The basis of the research method is the Decree of the President of the Republic of Uzbekistan No. PD-3983 of October 25, 2018 "On measures for rapid development of the chemical industry in the Republic of Uzbekistan", No. PD-4265 of April 3, 2019 "Further reform of the chemical industry and measures to increase its investment attractiveness", PD-4992 dated February 13, 2021 "Measures for further reform and financial consolidation of chemical industry enterprises, development of production of high added value chemical products "On Activities", Decree No. PD-60 of January 28, 2022 "On the Development Strategy of New Uzbekistan for 2022-2026" and other regulations related to this activity - constitutes legal documents.

**Research results and their discussion.** In the study of the chemical industry from an economic geographical point of view, it is important to determine its place in the national economy, to study its branches and regional structure. Because networks are the result of the social division of labor, and they embody concentration (incorporation), specialization, cooperation and combination of the forms of social organization of production [3, 4, 7, 10]. In addition, it is in the system of networks that creates an opportunity to introduce new technologies for chemical industry production and to connect modern science and technology achievements with practice [6]. All this affects the level and development of economic and social development of Uzbekistan.

It is known that the composition of branches of the regional chemical industry is a complex socio-economic system, and their formation is related to various geographical factors. In particular, these factors are caused by the characteristics of a certain region, such as the base of mineral raw materials, natural, labor and financial resources, or their economic geographical location [2, 3, 10, 11, 12].

The chemical industry of Uzbekistan was formed in the process of industrialization of the former Union. Currently, the share of this sector in the country's gross domestic product is only 0.6 percent, and it is directed to the production of nitrogen, phosphorus and potash fertilizers [8, 9].

For comparison, this network is 5.8% in Germany and 0.2% in Kazakhstan [8, 9]. In addition, the chemical industry of Uzbekistan is represented by segments of mining-mining-chemistry, oil-gas-chemistry, chemical products, inorganic, organic and household chemical products [11, 58].

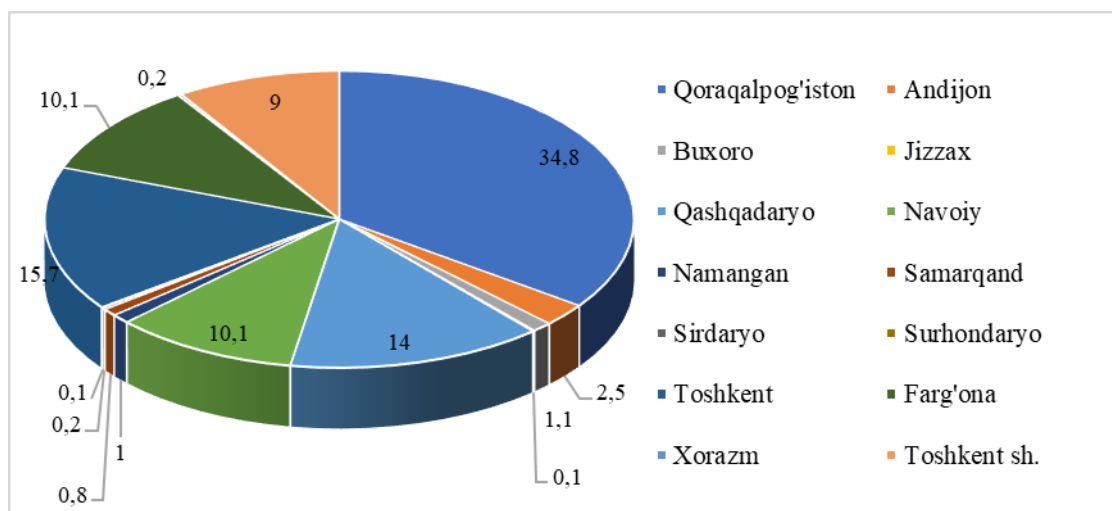


**Figure 1. The composition of the production of the main products in the chemical industry of Uzbekistan in percentage (as of 01.01.2021) image author's development [13, 14]**

Currently, within the branches of the republic's chemical industry, the production of sulfuric acid (27%), synthetic ammonia (23%), and mineral fertilizers (21%) is well developed, and these industries account for 71% of the total production. is riding (see Figure 1). In recent years, the structure of branches of

the chemical industry has changed, and polyethylene and technical salt production industries are developing.

The development of the chemical industry in the republic, in turn, affects the regional organization of the entire chemical industry. This can be understood based on the analysis of the data of Figure 2 below.



**Figure 2. Territorial composition of the chemical industry of Uzbekistan, in percent (as of 01.01.2021), the picture was created by the author [13, 14].**

If we pay attention to the data given in Figure 2, at present, according to the territorial structure of the republic's chemical industry, the republic of Karakalpakstan (34.8 percent), Tashkent region (15.7 percent), Kashkadarya region (14.0 percent) has the largest share. These regions account for 64.5% of the total share of chemical industry products produced in the country. Also, Navoi and

Fergana regions (10.1 percent), Tashkent city (9.0 percent) made a high share. Andijan region (2.5 percent), Bukhara region (1.1 percent), Jizzakh region (0.9 percent), Samarkand and Namangan region (0.8 and 1.0 percent) take the next places. The lowest share corresponds to Syrdarya and Khorezm regions (0.2 percent) and Surkhondaryo region (0.1 percent) [13, 14]. From these data, it can

be seen that the regional structure of the chemical industry has a different appearance. While some regions have a large weight, on the contrary, in some regions it can be seen that this network is almost not developed. In the future, it will be appropriate to pay attention to regions where this network is not developed, including Syrdarya, Surkhandarya and Khorezm regions.

In addition to the information studied above, the volume of chemical industry products produced in the territorial units of the republic (republic, regions, cities and districts) also affects the change in the total volume of chemical industry production. This is proved by the data of Table 1 below.

It can be seen from these data that depending on the production volume of

chemical industry products, it is possible to divide them into 4 conditional groups (highest, high, low and very low). To them:

I. The **highest** production volume group. 3 billion to this group. soums and higher territorial units, that is, the Republic of Karakalpakstan (7290.6 billion soums), Tashkent region (3294.3 billion soums) are included;

II. The **high** production volume group. The volume of product production is 1 billion for the top group 3 billion soums. Territorial units up to soums were introduced. From this group, Kashkadarya region (2922.1 billion soums), Navoi region (2128.6 billion soums), Fergana region (2122.0 billion soums) and Tashkent city (1890.1 billion soums) took place;

Table 1

**Grouping of regions of the republic by the volume of production of chemical industry products (01.01.2021, billion soums)**

| №   | Group                                           | The volume of production of the chemical industry of the regions billion soum.                                                                            |
|-----|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| I   | The highest (3 billion soums and above)         | Republic of Karakalpakstan (7290.6 billion soums), Tashkent region (3294.3 billion soums)                                                                 |
| II  | High (from 1 billion soums to 3 billion soums)  | Kashkadarya region (2922.1 billion soums), Navoi (2128.6 billion soums), Fergana (2122.0 billion soums), Tashkent city (1890.1 billion soums)             |
| III | Low (from 0.1 billion soums to 1 billion soums) | Andijan region (524.1 billion soums), Bukhara region (236.6 billion soums), Namangan region (201.3 billion soums), Samarkand region (170.7 billion soums) |
| IV  | Very low (below 0.1 billion soums)              | Syrdarya region (46.8 billion soums), Khorezm region (45.8 billion soums), Surkhandarya region (28.1 billion soums), Jizzakh region (22.3 billion soums)  |

The table was compiled by the author based on the information of the State Statistics Committee of the Republic of Uzbekistan.

III. 0.1 billion to the group with **low** production volume. 1 billion soums. territorial units up to soums, namely Andijan region (524.1 billion soums), Bukhara region (236.6 billion soums),

Namangan region (201.3 billion soums), Samarkand region (170.7 billion soums) was introduced;

IV. 0.1 billion to the group with **a very low** volume of production. territorial units lower than soums are included. From this group, Syrdarya region (46.8 billion soums), Khorezm region (45.8 billion soums), Surkhandarya region (28.1 billion

soums) and Jizzakh region (22.3 billion soums) took place.

At present, in the volume of chemical industry production in Uzbekistan, the largest number of products is created in the Republic of Karakalpakstan.

Over the past years, the development of the national economy of Uzbekistan has been influenced by the establishment of new chemical industrial enterprises in the regions, the increase in the number of large and small chemical enterprises. This, along with providing employment to the population of the republic and its internal regions and helping to further improve their lifestyle, increases its importance in the development of the regional economy. In particular, it is possible to find out by

statistical observation of the data presented in Table 2 below, and by comparing them with each other. Currently, as of January 1, 2021, the number of large and small chemical industrial enterprises in Uzbekistan (including the pharmaceutical industry) is 7,233, and more than 50,000 employees work in them. If we pay attention to the dynamics of chemical industrial enterprises established in the republic in 2001-2020, it can be observed that their number has increased year by year (Table 2) [13, 14].

In 2001, the total number of chemical industrial enterprises in the republic was 429, in 2005 - 736, in 2010 - 1050, in 2015 - 3005, and by 2020 - 7233.

Table 2

**The number and territorial composition of chemical industrial enterprises established in the Republic of Uzbekistan (in units)**

| Areas                      | Years      |            |             |             |             |
|----------------------------|------------|------------|-------------|-------------|-------------|
|                            | 2001       | 2005       | 2010        | 2015        | 2020*       |
| Republic of Uzbekistan     | <b>479</b> | <b>736</b> | <b>1230</b> | <b>3005</b> | <b>7233</b> |
| Republic of Karakalpakstan | 1          | 4          | 15          | 49          | 290         |
| Provinces                  |            |            |             |             |             |
| Andijan                    | 24         | 49         | 75          | 238         | 531         |
| Bukhara                    | 8          | 19         | 35          | 70          | 251         |
| Jizzakh                    | 8          | 12         | 26          | 78          | 227         |
| Kashkadarya                | 8          | 18         | 37          | 68          | 174         |
| Navoi                      | 13         | 28         | 19          | 50          | 154         |
| Namangan                   | 21         | 29         | 31          | 116         | 350         |
| Samarkand                  | 38         | 69         | 119         | 228         | 587         |
| Surkhandarya               | 12         | 19         | 24          | 35          | 165         |
| Syr Darya                  | -          | 7          | 7           | 33          | 114         |
| Tashkent                   | 53         | 76         | 131         | 351         | 935         |
| Ferghana                   | 57         | 80         | 155         | 372         | 819         |
| Khorezm                    | 6          | 11         | 36          | 112         | 302         |
| Tashkent s.                | 230        | 315        | 520         | 1205        | 2334        |

\*Note-2: The pharmaceutical industry is also included in the data of 2020\*, this industry is not included in other years. The table was compiled by the author based on the information of the State Statistics Committee of the Republic of Uzbekistan.

If we compare it to 2001, it can be observed that it has increased almost 17 times. When comparing regions, the city of Tashkent is the leader in terms of the number of established chemical industrial enterprises (1,205 in 2001, and 2,334 in 2020). Tashkent (53 and 935, respectively), Fergana (57 and 819, respectively), Samarkand (38 and 365, respectively), Andijan (24 and 531, respectively) and Namangan (21 and 350) are in the next places. ta) regions occupy. In the rest of the regions, including Khorezm region (6 and 302, respectively), the Republic of Karakalpakstan (1 and 290, respectively), Bukhara (8 and 251, respectively), Jizzakh (8 and 227, respectively) ), Kashkadarya (8 and 174, respectively), Surkhandarya (12 and 165, respectively), Navoi (13 and 154, respectively), Syrdarya (0 and 114, respectively, where the first chemical industrial enterprise was commissioned in 2003 dropped) regions take the next places in terms of the number of chemical industry enterprises (Table 2). Such a regional organization of enterprises is influenced primarily by changes in the forms of ownership in the industry, support for entrepreneurship, the number of residents in the regions, the abundance of labor resources and their employment, and the consumption factor. showed. As a result, under the influence of these factors, there was an opportunity to form large and many small chemical industrial enterprises in the region. Secondly, it can be concluded that the high natural resource potential of Kashkadarya region and the Republic of Karakalpakstan and the wealth of local raw material resources also led to the establishment of chemical industrial enterprises in these places. However, it should not be forgotten that while the

above-mentioned regions are leading in terms of the number of enterprises, the Republic of Karakalpakstan and Kashkadarya regions are leading in terms of product production. The main reasons for this are the establishment of chemical industry production facilities with large production capacity in these regions in recent years.

**Conclusion, suggestions and recommendations.** In conclusion, it can be said that in the following years, the chemical industries will further develop in Uzbekistan, and the territorial structure will improve. This is important for the rapid development of the economy of Uzbekistan. Because the regional organization of chemical enterprises:

- first of all, geographical factors such as changes in the forms of ownership in the industry, support for entrepreneurship, the number of people in the regions, the abundance of labor resources and issues of their employment, consumption will affect. As a result, under the influence of these factors, there will be an opportunity to form large and many small chemical industrial enterprises in the region;
- secondly, the high potential of natural resources and the wealth of local raw material resources in Kashkadarya region and the Republic of Karakalpakstan led to the establishment of chemical industrial enterprises in these places.

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