

## Regional characteristics of the employment of the population of southern Uzbekistan

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**Abstract:** This article examines the employment problem of the population of the Republic of Uzbekistan, including the Surkhandarya region, located in its southern part, where the population is rapidly growing and the number of people entering the labor market is increasing year by year. Despite the fact that Surkhandarya region has rich natural resources and conditions, as well as a significant number of labor resources, it occupies the lowest places in the country in terms of socio-economic development. Various methods were widely used in the research, including statistical analysis, cartographic modeling, Geographic Information Systems (GIS), and analysis of examples. The article assessed the influence of geographical and demographic factors on employment in Surkhandarya region, which ranks lowest in the country in terms of employment, and studied changes in their dynamics. The formation of the demographic composition of the population of a certain territory is a historical process that occurs over a long period of time as a result of the natural conditions of the territory. This article briefly covers the labor resources of the population of Surkhandarya region, located in the southern part of the Republic of Uzbekistan, and their employment in production sectors.

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### 1. Introduction

In Uzbekistan, in recent years, great attention has been paid to the issues of raising the standard of living of the population, providing them with decent jobs, and training qualified personnel. At the same time, significant progress is currently being made as a result of effective economic reforms and a number of positive developments in areas related to intellectual potential. Economic reforms are being carried out in the Republic of Uzbekistan for the effective use of labor resources and their use in the regions.

According to the data of the balance of labor resources, the total labor resources of the republic in 2024 will be 21.0 million people, of which 99.4 percent will be working people, and the rest will be working teenagers and pensioners (Nodirbek S. Pardayev et al, 2025).

In addition, it should be noted that 75.3 percent of labor resources or 15.9 million people belong to the category of economically active population, of which 15.2 million people belong to the category of employed population. It can be seen that the employment rate of the economically active population is 95.5 percent. The remaining 5.4 million people in the structure of labor resources are economically inactive population, which

make up 24.7 percent of the total labor resources. As we mentioned above, by the end of 2024, the employment rate of the population was 94.7 percent in relation to the economically active population and 71.3 percent in relation to labor resources. This positive demographic trend is also characteristic of the Surkhandarya Region, which occupies an area of 20.1 thous. km<sup>2</sup> — equivalent to 4.47 % of the nation's total land area. The region's population, as of the same date, amounted to 2.95 million, accounting for 7.8 % of the country's total population. Surkhandarya stands out from other regions due to its distinct geographical location, varying levels of socio-economic development, and the unique ethnic composition, cultural traditions, and spatial organization of its population [Table 1].

The Surxondaryo Region, which shares borders with three countries — Tajikistan, Turkmenistan, and Afghanistan — is among the regions of Uzbekistan experiencing the most rapid population growth in recent years. As a consequence of this demographic expansion, the size and volume of the region's labor resources have increased considerably, with a nearly balanced gender composition and a predominantly young working-age population. The

formation of labor resources in Surxondaryo is primarily driven by natural population growth, while the impact of mechanical (migration-induced) population movement remains relatively limited (Tojiyeva Z. et al. 2024). The region's geographical location, natural conditions, and abundance of natural resources play a decisive role in shaping both its demographic dynamics and the development of its labor resources. However, despite these favorable demographic trends and the availability of significant resource potential, the overall employment level in Surxondaryo cannot be considered satisfactory compared to other regions of the Republic of Uzbekistan. Several interrelated factors influence the formation and structure of employment in the region. Surxondaryo's relative isolation from the more industrially developed urban centers of Uzbekistan, its peripheral position in the country's extreme south, and its proximity to Afghanistan — a neighboring state marked by long-term political instability — have all exerted a notable impact on the region's employment conditions (Nodirbek S. Pardayev et al., 2025). Accordingly, the primary objective of this study is to analyze the size, composition, and dynamics of labor resources in the Surxondaryo Region, to identify the social, demographic, and geographical determinants affecting employment, to assess the territorial features of labor distribution, and, based on the available regional capacities, to propose strategic directions for improving employment levels among the population.

## 2. Material and Methods

Special attention was paid to improving the standard of living of the population, in particular to providing employment to the population and increasing its employment. A. Smith, J.M.Keynes, B.Breev<sup>1</sup>, V.Bulanov, B.Genkin, A.Kokina and other scientists abroad in studying and finding solutions to the problems of population and population employment and theoretical foundations in this direction carried out work on, some people in Uzbekistan also dealt with the issues of population employment in this field. In particular, Q.X.Abdurahmonov, Kh.Abulqosimov, M.R.Boriyeva, D.Mirsaidov, A.Khasanov, Sh.Kholmo'minov, O.Ata-Mirzayev and others conducted their scientific research work. In these studies, the theoretical and methodological aspects of the study of population size, dynamics, national and age-sex composition, reproduction and employment of the population have been developed.

The theoretical foundations of population employment have evolved over several centuries, giving rise to four major schools of economic thought: the classical, Keynesian, monetarist, and institutionalist

approaches. Scholars representing these paradigms have offered differing interpretations of employment dynamics and the role of the state in regulating labor markets. Proponents of the classical school, in particular, maintained that full employment is the natural state of a market economy and that minimal government intervention constitutes the most efficient policy framework. A central figure in the development of classical theory was the English economist Adam Smith, who introduced the concept of the “invisible hand”. According to this principle, in a freely functioning market economy, individuals pursuing their own interests inadvertently contribute to the efficient allocation of resources and the overall welfare of society, thereby achieving a self-regulating equilibrium. In his seminal work, “An Inquiry into the Nature and Causes of the Wealth of Nations (1776)”, Smith argued that the prosperity of nations is determined by their per capita income and that under conditions of perfect competition, unemployment cannot persist because wages and prices adjust freely. Furthermore, Smith posited that the structure of employment is determined by variations in profit rates across sectors, with both capital and labor naturally flowing toward those industries that offer higher returns.

The founder of Keynesian theory, J.M.Keynes, identified the achievement of full employment as one of the primary goals of state intervention in the labor market. Keynes developed the theory of a state-regulated economy, which he outlined in his seminal work, *The Theory of Employment, Interest, and Money* (1936). In this work, he proposed a novel approach to employment theory. According to Keynes, when aggregate demand in a particular industry is low, the level of employment within that industry will decrease. He argued that to increase aggregate demand, it is essential to make loans more affordable and to reduce taxes (Brown A. et al, 2022). Keynes' ideas suggest that the condition for achieving full employment is the elimination of unemployment, which, in his view, should be zero (Ibragimov L.Z. 2022).

The impact of wages on employment has also been extensively studied by scholars. In this regard, American economist C.Brown conducted a comprehensive analysis of the effect of the minimum wage on employment in the United States (Brown A. et al, 2022). Similarly, another American scholar, David Card, examined the impact of a minimum wage increase in California in 1988. He found that raising wages did not have a negative effect on employment.

In Uzbekistan, geographers, economists, and demographers have conducted significant scientific research on the formation of labor resources,

<sup>1</sup> Breev B.D. *Bezrabotnitsa v sovremennoy Rossii*. - M.: Nauka, 2005.

employment, and demographic processes. For instance, K.Kh. Abdurakhmanov conducted studies focusing on the economic aspects of labor resource formation (Abdurakhmanov K.Kh. 2004).

The role of Z.N.Tojiyeva in research on the natural movement of the population in Uzbekistan is particularly noteworthy. Her works on the socio-economic issues of population growth and distribution, exemplified by her study of the Jizzakh region (Tojiyeva Z.N. 1998), as well as her research on demographic processes in the Republic of Uzbekistan and their territorial characteristics (Tojiyeva Z. 2017), stand out as significant contributions to this field.

For the first time in Uzbekistan, Professor L.Z.Ibragimov assessed the territorial distribution of employment in the labor markets of cities and rural districts in southwestern Uzbekistan by geographical altitudinal zones (desert, foothill, and mountainous areas), economic-geographical features (such as economic-geographical location, territorial division of labor, specialization, territorial production complexes, and zoning). He also enhanced the scientific and methodological foundations of this research. Using econometric modeling and the Pearson multifactorial correlation method, Ibragimov identified 18 social and economic indicators for the regions of southwestern Uzbekistan and determined the level of their dependence on employment (low, medium, and high) (Ibragimov L.Z. 2022).

In addition, various approaches to labor resources have been described in the research works of scientists such as R.KHodiev (1962), M.Yangiboev (1973), M.Erdonov (1995) and D.Egamova (2007). However, despite these contributions, the labor resources and population employment in the Surkhondaryo region, along with the factors influencing them, have not yet been sufficiently studied within the context of the region.

### 3. Results

Among the labor resources, according to the employment of the employed population, employment in production and non-production sectors is considered. Due to the fact that in recent years, a lot of attention has been paid to the development of small business and private entrepreneurship, now the percentage of the population employed in production is increasing in small business and private entrepreneurship. A lot of work plans have been developed in Uzbekistan to increase the employment of the population and their implementation is being carried out on a large scale (Nodirbek S. Pardayev et al, 2025). In recent years, a number of changes have occurred in the employment of the population of the republic. This, in turn, will increase the employment of the population in the regions, improve the standard of living of the

population, increase the number of small businesses among the population, support private entrepreneurship and family entrepreneurship, and provide them with moral and financial support. led to a number of changes in the composition of industries.

Surkhondaryo industry is dominated by light and food industries. At the same time, in recent years, the building materials industry, mining, light, food, oil refining industries are rapidly developing in the region due to the availability of raw materials and labor resources. As a result of industrial development, the share of industry in the region's gross domestic product will increase to a high level, and it will also have a great impact on the increase of the share of the population employed in this sector.

The number of people engaged in entrepreneurial activity and employed in this field is growing rapidly due to the fact that in recent years a wide path has been opened to the field of entrepreneurship and the attention given to it in increasing the employment of the residents of Surkhondaryo region (Nodirbek S. Pardayev et al, 2025). As a result of this, significant indicators of employment of the population in the production sectors are recorded in the region. In particular, in the following years, based on the natural geographical conditions of each district of the region, as a result of the use of existing resources, industrial sectors such as mining, light industry, construction material production, food, heavy industry are developing among the population. Development of various branches of farming and animal husbandry in agriculture and intensive development of it are being carried out. As a result, a large part of the population, in particular, the labor resources, is currently employed in production, and certain areas of production are developing at the district level, depending on the geographical features of the place, and employment of the population is provided by industry in the regions. Production sectors have different appearance by district. The reason is that the natural conditions and labor resources of the region are different, which leads to the development of the structure of the network in the region based on its geographical conditions.

Agriculture occupies a special place in the employment of residents of Surkhondaryo region. A large part of the population has been employed in this network for many years. Even now, the number of people employed in agriculture is higher than in other sectors. The main branches of agriculture: cotton growing, grain growing, horticulture, cocoon growing, lemon growing. Dryland farming (mainly wheat and barley) is practiced in the foothills. In Uzbekistan, the most thin fiber cotton is produced in the Surkhondaryo region. Horticulture and viticulture are developed in the mountainous districts of the province. Cattle, sheep

(Karakol and Hisar sheep), goats, goats, poultry, and rabbits are kept in animal husbandry. "Surkhan Suri"

blackbuck skin, which is highly valued at world fur and leather auctions, is grown.

**Table 1. Administrative-territorial division of Surkhandarya region (As of January 1, 2025)**

Administrative-territorial units	Area (thousand km <sup>2</sup> )	Population (thousand people)	Population density (people per 1 km <sup>2</sup> )	Rural districts	Total cities	Small towns
<b>Surkhandarya region</b>	<b>20,10</b>	<b>2945,5</b>	<b>146,5</b>	<b>14</b>	<b>8</b>	<b>112</b>
Termez city	0,04	207,3	5182,5	0	1	0
<i>district's:</i>						
Oltinsoy	0,57	197,4	346,3	1	0	14
Angor	0,39	147,0	376,9	1	0	12
Bandikhon	0,68	85,3	125,4	1	0	3
Boysun	3,21	127,1	39,6	1	1	4
Muzrabot	0,74	156,8	211,9	1	0	10
Denov	1,15	430,5	374,3	1	1	11
Jarkurgan	1,16	244,0	210,3	1	1	5
Kumkurgan	1,83	261,6	143	1	1	11
Kizirik	0,38	126,9	333,9	1	0	5
Sariosiyo	3,82	232,9	61	1	1	4
Termez	0,83	87,2	105,1	1	0	7
Uzun	1,84	192,4	104,6	1	0	9
Sherobod	2,73	214,9	78,7	1	1	7
Shurchi	0,72	234,2	325,3	1	1	10

*The table was compiled by the authors based on data from the National Statistics Committee of the Republic of Uzbekistan.*

In 2010, the number of people employed in agriculture in the region was more than 397.7 thousand people, by 2015, this figure was 420.3 thousand people, and in 2024, it was 479.2 thousand people. Although these figures show that the number of people employed in agriculture is growing from year to year, but in relation to the total labor resources, the number of people employed in agriculture is decreasing in the following years. There are sufficient opportunities for the development of agriculture in Surkhandarya region for its effective use.

The development of the agricultural sector, the intensive development of new land for agricultural purposes, not only creates an opportunity for the region to grow more agricultural products, but also plays an important role in increasing the employment of the population of the region in agriculture. The main part of regional agriculture is carried out in the Surkhan-Sherabad basin, in well-supplied areas (Nodirbek S. Pardayev et al, 2025). However, with the effective use of current scientific and technical achievements in agriculture, the possibilities of agricultural development in new regions are wide. First of all, it is necessary to use the natural, economic and

demographic opportunities of the region to further develop the agricultural sectors of the region and to increase the employment of the population in this sector . In this regard, several factors affect the development of regional agriculture. In particular:

- Geographical location of the region;
- Provision of sufficient natural conditions, land and water resources;
- Proximity to the foreign market (the region borders 3 foreign countries);
- Ease of demographic situation and sufficient labor force

Taking into account the above factors, the development of the region's agriculture has the opportunity to bring the existing ones to a better stage in a new intensive way. The area of land used for agriculture is 284.3 thousand hectares, of which 271.6 thousand hectares are irrigated, including 90.8 thousand hectares of cotton, 129.7 thousand hectares of grain crops, 14.1 thousand hectares of vegetables, 6.8 thousand hectares of land are planted with rice, 8.5 thousand hectares with potatoes, and 21.2 thousand hectares with fodder crops.

As a result of recent opportunities for small business and entrepreneurship in Surkhandarya region and the establishment of large industrial zones, the population employed in industry in the region has grown significantly. In 2010, the number of people employed in the industry in the region was close to 750 thousand, and in 2015, this figure was more than 104.0 thousand. By 2024, there are more than 137.5 thousand people. The population of the industry is growing year by year in the region. In recent years, the establishment of a cement production enterprise in Sherabad and Zharkurgan districts, the opening of the Khanjiza polymetallic ore mine in the Sariosiyo district, the opening of the Khojaikon salt mine, and the opening of cotton ginning textile factories in many districts of the region, as well as the development of the industrial sector in the region, are busy in this sector. Leads to population growth. In the region, the industry is one of the young industries. 15-20 years ago, there was only light and food industry in Surkhandarya region. Currently, new industries are entering and developing in the region. Currently, the mining industry is developing very quickly in Sherabad district as a result of the discovery of new mines and their operation. As one example, the Sherabad cement plant, which was opened in recent years, built a cement plant to turn this area into a finished product due to the abundance of raw material reserves. As a result, as a result of the construction of one cement plant in the region, employment of more than 5 thousand people was ensured and it became an important factor in ensuring the employment of personnel who graduated from the mining industry in the region.

Among other large industrial enterprises in Surkhandarya region, Denov textile spinning factory, Denov wine-vodka factory, Zhargorgon cement plant and oil processing department located in Zhargorgon district, Sherabad ceramic art products, mining of polymetallic ores and stone sorting in Sariosiyo building materials factories, Shargun coal mine, flour combine in Shorchi district, silk and sewing factories in Termiz city, Khojaikon salt mines and other large industrial enterprises are working.

The establishment of enterprises with the participation of foreign investments in Surkhandarya region started much later than in other regions of the republic. This was also caused by the unfavorable geopolitical position of the region (aggravation of the political situation in Tajikistan in the early 1990 s and Afghanistan in the late 1990 s). In the region, joint ventures began to be established in the late 1990 s and early 2000 s. However, despite this, the region ranks last in Uzbekistan in terms of the establishment of joint ventures. For example, at the beginning of the 21st century, the number of joint ventures in the region was 36, and the number of joint ventures in the region was

1.5 % of the republic. And the republic provided only 0.6 percent of gross industrial products. Currently, as of 2024, there are 142 joint ventures, 283 foreign enterprises and More than 25,376 registered small and private enterprises are working. The largest number of foreign and joint ventures in the Surkhandarya region belong to the countries of the Islamic Emirate of Afghanistan (267), the Russian Federation (41), Tajikistan (21), and Turkey (11).

After agriculture and industry, trade and general catering (9.7 %), construction (8.6 %), transport (3.2 %), housing and communal services are in the following places in terms of employment of the population of Surkhandarya region. economy (1.6 %) Employment of the population has been increasing in recent years, especially in trade and construction. Currently, more than 130.0 thousand people work in trade and general catering. Since the demand for trade and general catering is increasing day by day and it is a profitable sector, the level of employment in this sector is increasing in recent years.

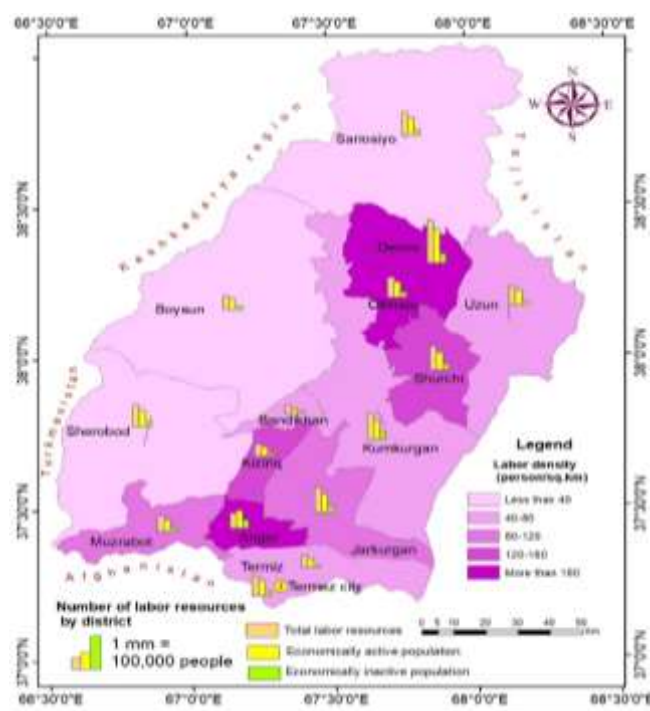


Figure 1. Surkhandarya region labor resource map.

The changes taking place in the field of construction in our republic do not bypass the region. In the field of construction, the complexes that are being built in a new way and as a result of their large-scale construction work is one of the reasons why the majority of the labor force in the region is employed in this field. Currently, more than 115.3 thousand people are employed in construction in the region.

Demographic processes lead to changes in the number of labor resources, which in turn affects employment. According to 2023 data, the number of labor resources in Surkhandarya region is 1,489.6 thousand people, representing 53.6% of the region's total population (see Figure 4). Among the districts, Denov ranks first with approximately 210 thousand people, while Bandikhon ranks last with the fewest labor resources, totaling 36.2 thousand people. This indicates a significant internal disparity within the region, with a geographical coefficient of 5.8 times. The region's natural population growth, which exceeds that of the republic, results in an annual increase in the number of people entering the labor market. This highlights the importance of efficiently utilizing natural resources and rapidly expanding existing employment opportunities through a comprehensive analysis of geographical, demographic and social factors.

#### 4. Conclusion

In conclusion, the findings of the study demonstrate that Surkhandarya Region, located in the southern part of Uzbekistan, stands out from other regions of the republic due to its unique geographical location, natural conditions, resources, and significant demographic potential. The study has thoroughly examined the natural, geographical, and demographic factors influencing employment in the region, which is characterized by a high natural population growth rate.

These geographical factors were assessed using the geographical assessment scale of natural conditions and resources' impact on the economic and social development of the region. Further more, territorial and temporal variations in demographic processes were analyzed using Geographic Information System (GIS) technologies.

The key demographic processes, including total labor resources, economically active population and economically inactive population and their effects on regional employment, were also explored. Based on the current natural, socio-economic situation of the region as a whole, there are many opportunities to develop production areas in the region, to bring it to a new modern state, and to increase the employment of the population in it. Due to the fact that there are very few production enterprises in the region for many years and the majority of the main population is employed only in agriculture, there are many opportunities to increase the production potential of the region. In this regard, it has enough opportunities to adequately use its natural resources, raw materials, and labor force.

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