# REGIONAL CHARACTERISTICS OF HUMAN CAPITAL MARKET DEVELOPMENT IN KHOREZM REGION

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**ABSTRACT**

This study is dedicated to a scientific analysis of the regional characteristics of the formation and development of the human capital market in the Khorezm region, as well as an assessment of its impact on economic growth. The research analyzes the structure of labor resources, the ratio of economically active and inactive population, and employment and unemployment levels across districts using statistical and economic analysis methods. The findings indicate that although the Khorezm region possesses sufficient quantitative human capital potential, its qualitative integration into economic activity remains limited. The declining share of the working-age population, territorial disparities in employment, and low economic participation of youth and women highlight the need to improve human capital market development mechanisms.

The study proposes a multidimensional economic model illustrating the interconnections between human capital, investments, innovations, and production efficiency in driving economic growth. Based on the results, scientific and practical recommendations are formulated to promote territorially differentiated development of the human capital market, strengthen the alignment between education and labor markets, and modernize the healthcare system from a human capital development perspective.

**Keywords:** Human capital, human capital market, labor resources, employment, economic growth, regional development, Khorezm region.

## Introduction

Human capital is not only a subject of the production process but also a direct driver of economic growth. It is precisely human knowledge, skills, health, and innovative potential that ensure the advancement of economic development to a qualitatively new level.

In developed countries, various strategies are employed to ensure the formation and sustainable development of human capital. Singapore, for example, increased its Human Capital Index (HCI) to 0.88 as of 2023 through a centralized management model. The education-health-labor chain operates effectively in the country through the implementation of digital literacy, technical education based on STEM disciplines, and 100% universal healthcare coverage. With the infant mortality rate in Singapore falling below 1.5‰, Japan, on the other hand, is focusing on developing human capital based on technical knowledge and innovative advancements in the context of an aging demographic composition.[2]

The human capital market emerges as a crucial socio-economic space that determines the opportunities for this potential to enter economic circulation. Through this market, knowledgeable, healthy, competitive, skilled, and able-bodied human resources effectively participate in the economy. The human capital market serves to integrate human potential into market mechanisms by ensuring the close interconnection of education, healthcare, innovation, employment, and professional development systems[2]. As a result, this process directly influences the level of economic development in the regions.

At present, in the "Yangi O'zbekiston taraqqiyot strategiyasi" put forward by the President of the Republic of Uzbekistan [1]. Specifically, in border regions specializing in agriculture and craftsmanship, such as the Khorezm region, increasing regional competitiveness by adapting human capital to modern market requirements has been identified as a priority task.

## Literature Review

In recent years, the study of regional features of the human capital market has expanded in scientific research, with deeper analysis of regional economic differences, labor market, migration, and innovation factors. The classical studies of T. Schultz and G. Becker linked human capital as an investment to economic growth, proposing a methodology for measuring it through education and health [3], [4]. In J. Mincer's works, the statistical relationship between education level and labor market income provides an empirical basis for regional analysis [5].

In modern research, the regional characteristics of the human capital market are primarily measured through economic and social indicators. For example, the work published by S. Chen in 2025 aims to improve the global and regional methodology for calculating the value of human capital, analyzing trends related to sustainable development parameters in regions where human capital has declined [6]. The role of human capital in regional development should be developed in alignment with labor market needs. If there is a lack of coherence between the demand for skilled labor and the education system, regional economies will face a structural crisis. In this regard, digitalization, remote work, and the development of modern professional skills are of great importance [7].

Furthermore, Mabiala (2023) empirically demonstrated the relationship between human capital quality and regional economic growth using Russian regions as an example in a regional econometric analysis of human capital quality. This is crucial for evaluating the effectiveness of regional policy [8].

## Analysis and Results

From a temporal and prospective standpoint, the human capital market requires long-term investments. In other words, investments made in human capital today do not yield results in the short term, but typically manifest as economic efficiency in 5-10 years and beyond. This process is directly linked to an individual's education, health improvement, professional skill enhancement, and the development of innovative thinking abilities.

The human capital market is a complex system comprising several interconnected and complementary components. Below, the main structural elements of this market are elucidated from a scientific perspective.

Education is the most important "investment field" of human capital and serves as the necessary foundation for its formation, development, and adaptation to society's needs. The continuous education process, from primary education to higher and academic levels, shapes a person's professional potential, creativity, analytical thinking, and ability to find innovative solutions to problems. Moreover, quality education ensures the competitiveness of human capital and is the main guarantee of its successful integration into the global economic system. The higher the degree of alignment between education quality and labor market requirements, the greater the economic efficiency of human capital. The following table presents statistical data on the distribution of labor resources among the economically active and economically inactive population.

**Table 1 Distribution of labor resources by economically active and economically inactive population in the Khorezm region (thousand people)**

| Indicators | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Total labor resources** | 1029.6 | 1044.8 | 1047.1 | 1050.9 | 1064.3 |
| Urban | 361.2 | 387.0 | 359.3 | 360.7 | 365.9 |
| % of total | 35.1 | 37.0 | 34.3 | 34.3 | 34.4 |
| rural | 668.4 | 657.8 | 687.8 | 690.2 | 698.4 |
| % of total | 64.9 | 63.0 | 65.7 | 65.7 | 65.6 |
| **Economically active population** | 810.0 | 804.5 | 806.4 | 815.5 | 831.4 |
| urban | 277.1 | 302.7 | 273.6 | 265.4 | 274.8 |
| % of total | 34.2 | 37.6 | 33.9 | 32.5 | 33.1 |
| rural | 532.9 | 501.8 | 532.8 | 550.1 | 556.6 |
| % of total | 65.8 | 62.4 | 66.1 | 67.5 | 66.9 |
| **Economically inactive population** | 219.6 | 240.3 | 240.7 | 235.4 | 232.9 |
| urban | 84.1 | 84.3 | 85.7 | 95.3 | 91.1 |
| of total, % | 38.3 | 35.1 | 35.6 | 40.5 | 39.1 |
| rural | 135.5 | 156.0 | 155.0 | 140.1 | 141.8 |
| of total, % | 61.7 | 64.9 | 64.4 | 59.5 | 60.9 |

The table data indicate that the number of labor resources in the Khorezm region has shown a stable growth trend during 2019-2023. Specifically, the total number of labor resources increased from 1,029.6 thousand people in 2019 to 1,064.3 thousand people in 2023, an increase of 34.7 thousand people or 3.4 percent. This situation suggests rising demographic pressure in the region and an increase in the proportion of the population entering the labor market.

Analysis of the territorial composition reveals that the majority of labor resources are concentrated in the rural population. During the period under study, the rural population accounted for 63-66% of the

total, confirming the agrarian nature of the Khorezm region. The share of the urban population remained relatively low, hovering around 34-37 percent.

Although the economically active population decreased slightly in 2020, steady growth was observed from 2021 to 2023, reaching 831.4 thousand people in 2023. The share of the economically active population is particularly high in rural areas, accounting for 66.9 percent in 2023. This can be attributed to the significant presence of agriculture, services, and informal employment in these areas. The number of economically inactive population showed a growth trend in 2019-2021, but relatively decreased in 2022-2023. However, the high proportion of economically inactive segments among the urban population (39.1% in 2023) indicates that human capital is not being fully utilized. This situation points to the insufficient effectiveness of mechanisms for transitioning from education to the labor market, particularly highlighting the existence of problems related to youth and women's employment.

**Table 2 Structure of labor resources in Khorezm region (thousand people)[1]**

| Indicators | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Labor resources** | 1029.6 | 1044.8 | 1047.1 | 1050.9 | 1064.3 |
| as a percentage of permanent population, % | 55.6 | 55.6 | 54.4 | 54.1 | 53.8 |
| **Including:** | | | | | |
| Working-age population of working age | 1026.1 | 1039.4 | 1041.3 | 1044.5 | 1056.6 |
| as a percentage of permanent population, % | 55.4 | 55.3 | 54.1 | 53.8 | 53.5 |
| as a percentage of labor resources, % | 99.7 | 99.5 | 99.4 | 99.4 | 99.3 |
| Workers under and over working age | 3.5 | 5.4 | 5.9 | 6.4 | 7.7 |
| as a percentage of permanent population, % | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| as a percentage of labor resources, % | 0.3 | 0.5 | 0.6 | 0.6 | 0.7 |

The data in the table above demonstrate a steady increase in the absolute number of labor resources in Khorezm region during 2019-2023. Specifically, the number of labor resources grew from 1,029,600 people in 2019 to 1,064,300 people in 2023, an increase of 34,700 people or 3.4 percent. However, despite this growth, the proportion of labor resources relative to the permanent population decreased from 55.6% to 53.8%. This trend indicates a rising demographic burden in the region.

The working-age population constitutes the main part of the labor resources. Although this category increased numerically during the study period (from 1,026,100 people in 2019 to 1,056,600 people in 2023), its share relative to the permanent population decreased from 55.4% to 53.5%. Concurrently, the proportion of working-age population within the labor resources remains exceptionally high (ranging between 99.3-99.7%). This situation reveals a demographically unbalanced structure of labor resources.

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[1]

A point requiring particular attention is that the number of workers below and above working age has nearly doubled, increasing from 3,500 people in 2019 to 7,700 people in 2023. Their share in the labor resources rose from 0.3% to 0.7%. This trend indicates growing economic activity among retirement-age individuals and persons below working age in the labor market.

This trend can be explained, on the one hand, by a shortage of labor, and on the other hand, by socio-economic factors, including the need for income diversification and the limitations of the pension and social security system. At the same time, while the increasing economic activity of young people and the older generation expands opportunities to utilize human capital, it requires a review of employment policies and labor protection mechanisms.

**Table 3 Number of economically active population, employed and unemployed in the districts of Khorezm region (2023, thousand people)**

| Areas | Economically active population, total | Employed in the economy | Unemployed | Unemployment rate, % |
|---|---|---|---|---|
| **Khorezm region** | 831.4 | 776.5 | 54.9 | 6.6 |
| Urgench city | 90.1 | 84.9 | 5.2 | 5.8 |
| Khiva city | 38.9 | 36.3 | 2.6 | 6.6 |
| **Districts:** | | | | |
| Bogot | 72.0 | 66.9 | 5.1 | 7.1 |
| Gurlan | 66.7 | 62.0 | 4.7 | 7.0 |
| Qo'shko'pir | 70.6 | 65.7 | 4.9 | 6.9 |
| Urgench | 85.1 | 79.6 | 5.5 | 6.4 |
| Hazorasp | 79.7 | 74.6 | 5.1 | 6.3 |
| Tuproqqal'a | 26.6 | 24.9 | 1.7 | 6.4 |
| Xonqa | 81.5 | 76.4 | 5.1 | 6.3 |
| Khiva | 58.2 | 54.3 | 3.9 | 6.7 |
| Shovot | 74.7 | 69.7 | 5.0 | 6.6 |
| Yangiariq | 49.3 | 45.9 | 3.4 | 7.0 |
| Yangibozor | 38.0 | 35.3 | 2.7 | 7.1 |

According to the table data, in 2023, the economically active population of the Khorezm region amounted to 831.4 thousand people, of which 776.5 thousand people were employed in the economy, and 54.9 thousand people were unemployed. The overall unemployment rate in the region is 6.6 percent, which indicates a certain stability in the labor market. However, there are significant differences in employment and unemployment rates across districts.

Analysis reveals that the districts with the highest unemployment rates are Bagat (7.1%), Yangibazar (7.1%), and Yangiaryk (7.0%). In these areas, a significant portion of the economically active population is not fully integrated into the labor market, which can be attributed to limited production infrastructure, underdeveloped service sector, and professional imbalances.

Conversely, the area with the lowest unemployment rate is Urgench city (5.8%), where the relatively developed industrial, service, and entrepreneurial infrastructure indicates expanding employment opportunities. The diversification of labor market demand in urban areas is increasing the efficiency of human capital utilization.

Analysis of the regional characteristics of the human capital market in Khorezm region shows that while the potential of labor resources in the area is quantitatively sufficient, their economic circulation and effective employment have not yet been fully realized. As a large portion of the population resides in rural areas, the slow pace of urbanization, low levels of digitalization, and underdevelopment of the modern service sector remain significant limiting factors in human capital development.

Additionally, the uneven distribution of the economically active population across regions in the province, high unemployment rates in certain districts, occupational imbalances, and low participation of women and youth in the labor market indicate existing systemic problems. Simultaneously, higher education institutions, professional development centers, "Ishga Marhamat" mono-centers, and information and communication technology infrastructure operating in the province are establishing the necessary institutional foundation to increase the potential of the human capital market.

On this basis, it is necessary to implement a scientifically grounded, systematic, and regionally differentiated approach to ensure the regional development of the human capital market in Khorezm province. Such an approach serves not only to increase employment levels but also to ensure long-term sustainable economic growth.

Within the framework of our research, we developed a diagram of a multifaceted economic model reflecting the role of human capital in economic growth. This model substantiates that human capital interacts with other key economic factors and influences the formation of economic growth mechanisms (Figure 1).
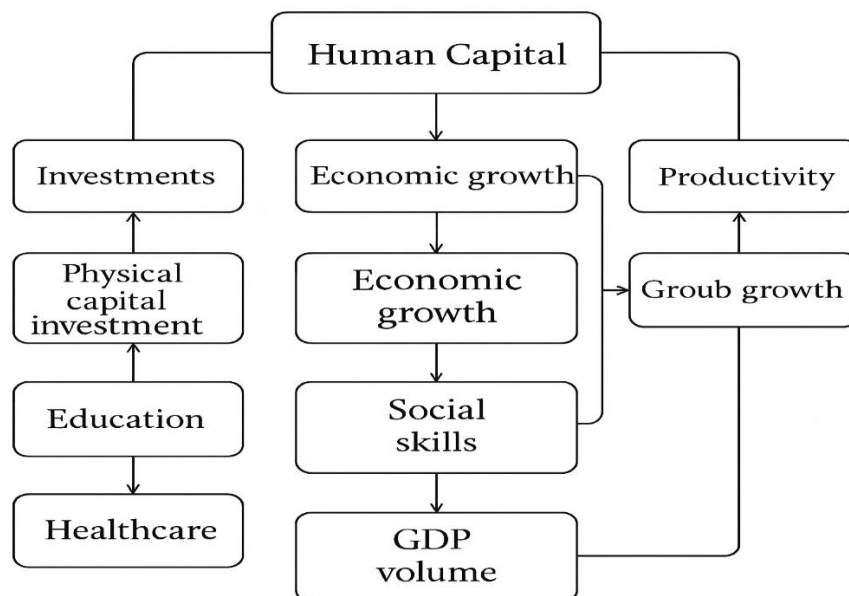


**Figure 1. Integrated economic model characterizing the role of human capital in the process of economic growth at the regional level**

According to the multifaceted economic model depicted in Figure 1, investments directed towards physical capital through investment activities are one of the main factors supporting economic growth. Production efficiency increases under the influence of human capital quality and the development of innovative activity. These processes, working in harmony with each other, accelerate economic growth and, as a result, lead to an increase in gross domestic product (GDP).

Furthermore, modernizing the healthcare system plays a crucial role in ensuring the sustainable development of human capital. Specifically, expanding the coverage of medical services in remote areas will enable increased labor productivity by strengthening public health. The synergy of these factors will serve to fully utilize the existing economic potential of the Khorezm region and ensure sustainable economic growth in the area.

## Conclusion

The results of the conducted research indicate that, although the human capital potential in the region is quantitatively sufficient, the level of its effective integration into the economic cycle has not yet been fully achieved.

Despite the absolute growth in the number of labor resources, the decrease in their share relative to the permanent population indicates an increasing demographic burden. In particular, the decline in the relative proportion of working-age population and the increase in the number of workers outside the working-age bracket demonstrate that structural changes are occurring in the labor market. This situation necessitates a review of employment policies and mechanisms for human capital development.

Analysis by region revealed an uneven distribution of the economically active population, with unemployment rates in some districts higher than the regional average. The high level of economic activity in rural areas is primarily driven by traditional sectors and informal employment, which does not adequately contribute to the qualitative development of human capital. In urban areas, while infrastructure and the service sector are relatively developed, the full potential of human capital utilization has not been realized.

Furthermore, the results of the developed multifaceted economic model show that human capital, investments, innovations, and production efficiency ensure economic growth in a harmonious manner. Investments directed towards education and healthcare systems are considered crucial strategic factors contributing to long-term GDP growth.

## References

1. Decree of the President of the Republic of Uzbekistan No. UP-60 dated January 28, 2022 "On the Development Strategy of New Uzbekistan for 2022-2026"
2. Ruzmetova, G. N. (2024). MAMLAKATDA INSON KAPITALINI RIVOJLANTIRISHDA AHOLI SALOMATLIK DARAJASI TAHLILI. QO 'QON UNIVERSITETI XABARNOMASI, 10, 69-72.Schultz, T. W. (1961). Investment in Human Capital. American Economic Review. https://www.jstor.org/stable/1818907

3. Schultz, T. W. (1961). Investment in Human Capital. American Economic Review. https://www.jstor.org/stable/1818907
4. Becker, G. S. (1964). Human Capital: A Theoretical and Empirical Analysis. University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/H/bo3684031.html
5. Mincer, J. (1974). Schooling, Experience, and Earnings. Columbia University Press. https://www.nber.org/books-and-chapters/schooling-experience-and-earnings
6. Chen, S. (2025). Human capital and regional disparities: Advancing accounting. PMC. https://pmc.ncbi.nlm.nih.gov/articles/PMC11884694/
7. Ruzmetova, G. (2025). Inson kapitalini rivojlantirishning mintaqaviy rivojlanish omillari. inlibrary.uz. https://www.inlibrary.uz/index.php/scin/article/view/106112
8. Mabiala, G. (2023). Human capital quality and its impact on economic growth of Russian regions. cyberleninka.ru. https://cyberleninka.ru/article/n/human-capital-quality-and-its-impact-on-economic-growth-of-russian-regions
9. Ruzmetova, G. N. (2025). TOSHKENT TIBBIYOT AKADEMIYASI URGANCH FILIALI MISOLIDA OLIY TA'LIM MUASSASALARIDA XARAJATLARNI REJALASHTIRISH MEXANIZMI. Инновационные исследования в современном мире: теория и практика, 4(15), 21-26.
10. Ruzmetova, G. N. (2025). INSON KAPITALINI RIVOJLANTIRISHNING MINTAQAVIY RIVOJLANISH ASOSLARINING ASOSIY OMILLARI TAHLILI. Наука и инновация, 3(13), 100-102.
11. Ruzmetova, G. N. (2025). O'ZBEKISTONDA TA'LIM TIZIMI BORASIDA AMALGA OSHIRILAYOTGAN ISLOHOTLAR VA UNI MOLIYALASHTIRISHNING DOLZARB MASALALARI. Наука и инновация, 3(5), 98-101.