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FORMATION OF ECONOMIC INDICATORS IN THE LIBERATED TERRITORIES: THE CASE OF THE ZANGILAN DISTRICT

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Abstract

This article provides a comprehensive analysis of the formation and development trends of economic indicators in the liberated territories, using the Zangilan district as a case study. The main objective of the research is to assess the economic potential of the region in the post-conflict period, to determine the impact of reconstruction and rehabilitation processes on economic indicators, and to substantiate directions for sustainable development.

The study examines key areas of economic activity, investment flows, employment levels, infrastructure provision, and innovative development models, particularly the “smart village” and “green energy” concepts. In addition, the region’s geographical location, natural resource potential, and transit-logistics opportunities are evaluated as important drivers of economic development.

The findings indicate that the formation of economic indicators in the liberated territories is primarily driven by state investments, rapid infrastructure restoration, and the application of innovative governance approaches. At the same time, the activation of the private sector, further improvement of the investment climate, and efficient utilization of resources are identified as essential factors for achieving long-term sustainable development.

Keywords: Zangilan district, socio-economic development, regional economy, post-conflict period, reconstruction and rehabilitation

INTRODUCTION

In the contemporary period, ensuring regional development and maintaining economic balance are regarded as key priorities of state policy. Particularly in territories undergoing a post-conflict phase, the reconstruction of the economic system, the restoration of infrastructure, and the improvement of social welfare require a comprehensive and integrated approach. In this context, the study of the formation of economic indicators and their development dynamics in liberated territories is of particular relevance from both theoretical and practical perspectives.

Following the restoration of the territorial integrity of the Republic of Azerbaijan, large-scale reconstruction and rehabilitation activities have been initiated in the liberated regions. Within this process, the establishment of a new economic model, the development of modern infrastructure, and the application of innovative technologies have been identified as priority directions. In this regard, the Zangilan district stands out as one of the strategically important regions due to its geographical location and economic potential.

The Zangilan district is distinguished by its rich natural resources, favorable climatic conditions, and proximity to international transport corridors. At the same time, the infrastructure projects implemented in the region, including the restoration of transport and communication networks and the creation of new logistics opportunities, have a direct impact on the formation of economic indicators.

The main objective of this article is to investigate the specific features of the formation of economic indicators in the liberated territories, particularly in the case of the Zangilan district, to analyze their development dynamics, and to identify future development prospects (Formation of Economic Indicators, 2024). Within the framework of the study, the factors influencing the formation of economic indicators are systematically examined, and scientifically grounded conclusions are presented to enhance the effectiveness of regional development.

-Pre-Occupation Socio-Economic Development Characteristics of the Zangilan District

The Zangilan district, located in the southwestern part of Azerbaijan within the Araz River basin, was considered one of the country's important regions distinguished by its favorable strategic and geographical position. Its location along the border with the Islamic Republic of Iran, as well as its proximity to communication routes connecting the Karabakh and Eastern Zangezur economic regions, served as key factors enhancing its economic and geopolitical significance.

Until the late twentieth century, the Zangilan district held a certain position within the country's agro-industrial complex and developed primarily based on an economic model centered on agricultural production and the utilization of natural resources. The district's fertile land resources, favorable climatic conditions, and water availability created broad opportunities for the development of agriculture, particularly grain production, viticulture, horticulture, and livestock farming. These sectors not only ensured employment for the local population but also played a significant role in strengthening regional food security (State Statistical Committee of the Republic of Azerbaijan, 1992).

At the same time, the rich natural resources available in the district—especially gold, molybdenum, and various construction materials—constituted one of the key factors shaping Zangilan's industrial potential. Although these resources were not exploited on a large scale, they served as an important economic foundation for future industrialization (Economic Geography of Azerbaijan, 2000).

While agriculture held a leading position in the district's economic structure, small industrial enterprises engaged in the primary processing of agricultural products also operated in the region. These enterprises were mainly oriented toward processing local raw materials and contributed to the formation of linkages between agriculture and industry. In addition, the production of construction materials and other auxiliary manufacturing activities formed part of the district's economic landscape.

In terms of infrastructure provision—one of the key indicators of socio-economic development—the Zangilan district had achieved a certain level of advancement. The district was connected to other regions via road networks, and systems for electricity supply and water provision had been established. Irrigation systems and land reclamation measures supporting agricultural development contributed to increasing the region's economic activity. However, the technical level and degree of modernization of infrastructure remained limited within the broader economic constraints of the period.

Furthermore, the presence of social infrastructure—such as educational, healthcare, and cultural institutions—played a significant role in ensuring the social welfare of the population. General education schools, medical facilities, and cultural centers contributed to maintaining living standards and ensuring access to essential social services (USSR State Statistical Committee, 1989).

Thus, prior to the occupation in 1993, the Zangilan district was characterized as a region with relatively stable socio-economic development dynamics, an agro-industrial orientation, and considerable natural resource potential. Although its economic development was primarily based on agriculture, its existing resources and strategic geographical position indicated substantial prospects for broader economic growth in the future.

-Demographic Situation and Population Structure

In the pre-occupation period, the demographic indicators of the Zangilan district were closely interrelated with the region's socio-economic development. According to the results of the 1989 All-Union Population Census, the district's population was approximately 28 thousand. In the subsequent years (1990–1992), due to positive natural population growth, the population increased to around 29–30 thousand (Economic Geography of Azerbaijan, 2000; USSR State Statistical Committee, 1989). One of the key characteristics of the demographic structure was its ethnic homogeneity. The overwhelming majority of the population consisted of Azerbaijanis, which contributed to the unity of the socio-cultural environment and served as a factor ensuring stability in social relations.

In terms of settlement patterns, the Zangilan district was predominantly rural. A significant proportion of the population resided in villages, which directly influenced the leading role of agriculture in the district's economic structure. Although the district center and several large settlements performed administrative and social service

functions, the level of urbanization remained relatively low.

From the perspective of age structure, the majority of the population belonged to the working-age group. This created favorable conditions for the availability of sufficient labor resources and ensured the provision of human capital for agriculture and other sectors of the economy. The relatively high share of young people also reflected the sustainability of demographic potential and served as a foundation for future economic development.

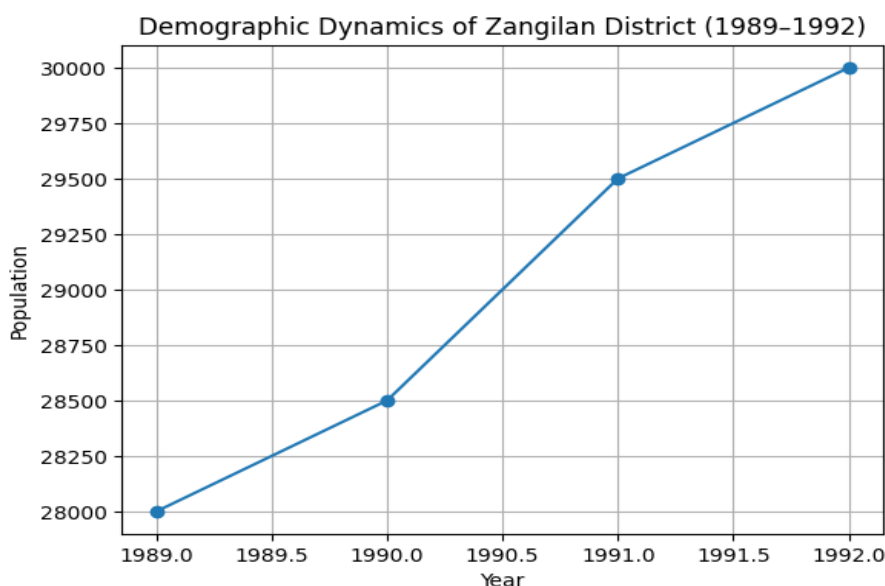
Natural population growth was characterized by a positive dynamic. A relatively high birth rate combined with a low mortality rate ensured steady population growth. This can also be interpreted as an indicator of socio-economic stability and the strength of family institutions within the region.

At the same time, certain internal migration processes were observed. A portion of the younger population migrated to larger cities—particularly Baku and other industrial centers—in pursuit of education and broader employment opportunities. However, this process did not significantly disrupt the overall demographic balance, and the district maintained relative population stability.

In conclusion, prior to the occupation, the demographic situation of the Zangilan district was characterized by stable growth dynamics, a high labor potential, and a predominantly rural settlement model. These features constituted key factors supporting the sustainability of economic activity in the region, particularly playing a decisive role in the development of the agricultural sector.

Figure:

Demographic Dynamics of the Zangilan District



-Employment and Labor Market Characteristics

In the pre-occupation period, the labor market of the Zangilan district was primarily based on an agrarian-oriented economic model and was shaped within the framework of the Soviet planned economy. Collective farms (kolkhozes) and state farms (sovkhozes) operating in the district served as the main sources of employment, concentrating the majority of labor resources. Within this system, the division of labor

and the level of employment were regulated by the state, and job provision was ensured through administrative mechanisms.

The agricultural sector held a dominant position in the structure of the labor market. Crop production—particularly grain cultivation, viticulture, vegetable growing, and horticulture—constituted the main areas of production, generating both seasonal and permanent employment. Viticulture, in particular, stood out as a key sector, serving as a basis for both raw material production and processing industries.

The livestock sector also occupied an important place in the labor market. Activities related to cattle and small ruminant breeding, as well as milk and meat production, served as significant sources of income for the rural population. This sector was widely developed in the region, especially due to the availability of extensive foothill and pasture areas.

In addition, forestry and auxiliary sectors created certain employment opportunities. The rich forest resources of the Zangilan district supported the development of timber processing, firewood production, and related activities.

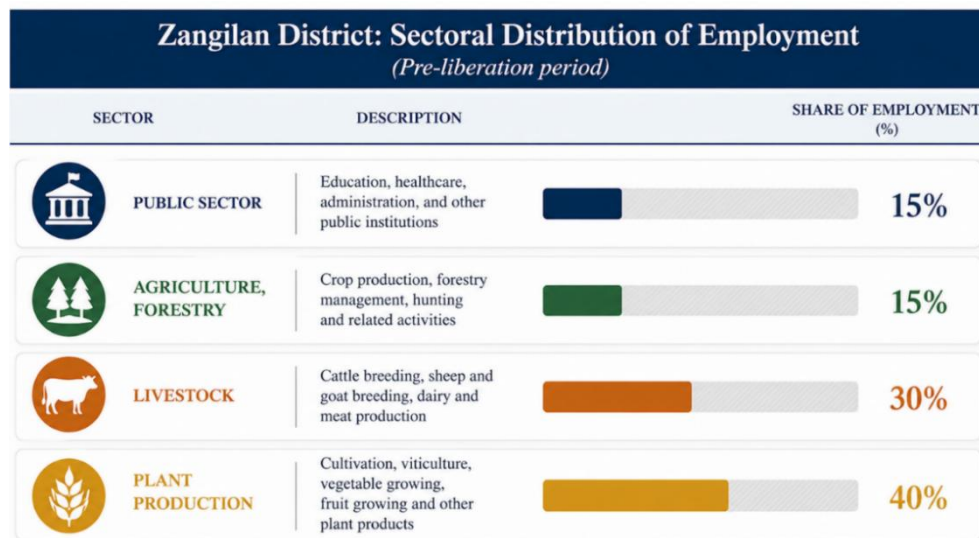
The public sector also accounted for a share of employment in the labor market. Employees working in education, healthcare, and local administrative bodies formed the core of employment in non-productive sectors. These personnel played an essential role in the provision of social services.

In line with the characteristics of the Soviet economic system, the level of officially recorded unemployment in the district remained low. Since employment was administratively ensured within the planned economy, open unemployment was virtually non-existent. However, this did not necessarily imply high labor market efficiency. On the contrary, hidden unemployment and low labor productivity were frequently observed.

Limited economic diversification represented one of the main challenges of the labor market. Due to the weak development of the industrial and service sectors, the majority of labor resources were concentrated in agriculture, which increased economic risks and constrained the region's development potential. The lack of alternative employment opportunities, particularly for the younger population, narrowed career choices and, in some cases, stimulated internal migration.

At the same time, the limited level of professional specialization within the labor force was another notable issue. A large share of labor resources possessed low to medium qualification levels, which affected the pace of technological advancement and the modernization of production processes.

In conclusion, prior to the occupation, the labor market of the Zangilan district was characterized as an agriculture-based, administratively regulated system with a relatively low level of diversification. While this model ensured employment in the short term, it created certain constraints in terms of improving economic efficiency and achieving sustainable long-term development.

Figure:**Sectoral Distribution of Employment in the Zangilan District****-Economic Development and Sectoral Structure***Agriculture*

In the pre-occupation period, agriculture constituted the backbone of the Zangilan district's economy and played a decisive role in its socio-economic development. The region's fertile land resources, abundant water supply formed by its location within the Araz River basin, and favorable climatic conditions created extensive opportunities for the development of various agricultural branches. These factors positioned Zangilan as one of the territories with high agrarian potential in Azerbaijan (State Statistical Committee of the Republic of Azerbaijan, 1992).

Agricultural production was primarily structured around crop production and livestock farming. Within crop production, grain cultivation was one of the leading sectors, playing a significant role in meeting the population's food demand and supporting interregional trade. At the same time, viticulture held particular importance, serving as a raw material base for the wine industry. The widespread presence of vineyards reflected the suitability of the district's climatic conditions for this sector (USSR State Statistical Committee, 1989).

Horticulture and vegetable cultivation also represented important components of the agricultural sector. Orchards and vegetable fields contributed both to satisfying domestic demand and to supplying products to other regions. These activities also accounted for a considerable share of employment among the population (USSR State Statistical Committee, 1989).

The livestock sector developed as an integral part of agriculture. The availability of extensive pasturelands facilitated the development of both large and small ruminant breeding. Meat, milk, and other livestock products played a significant role in meeting local consumption needs and participating in market exchanges (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

Within the framework of the Soviet planned economy, agricultural production was mainly organized through collective (kolkhoz) and state (sovkhos) farms, with production volumes and product distribution regulated by the state. While this system

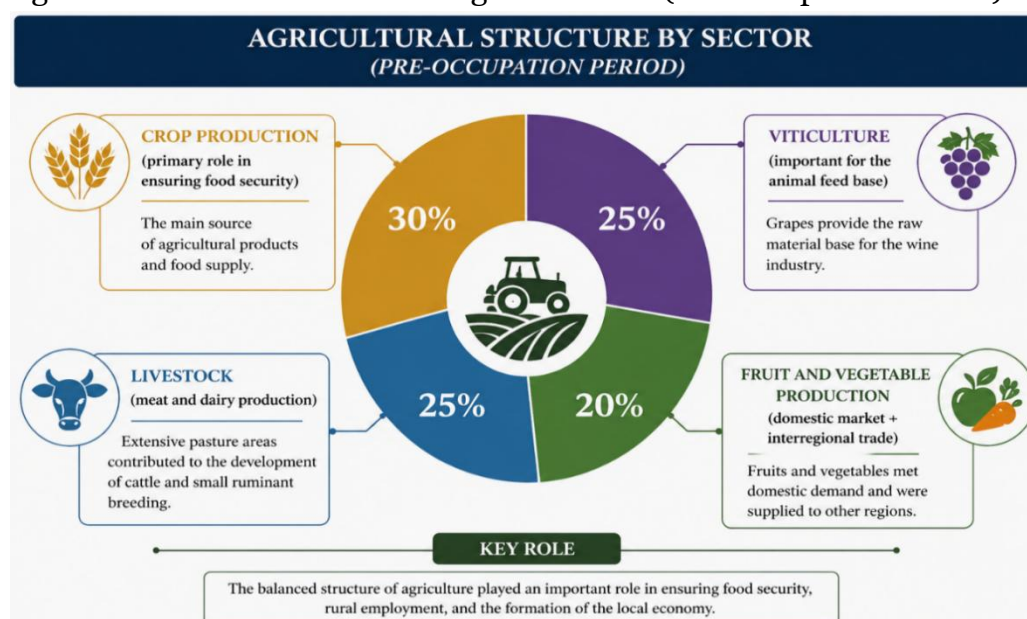
ensured a certain level of stability and continuity in agricultural production, the limited role of market mechanisms and the insufficient application of technological innovations constrained productivity growth (USSR State Statistical Committee, 1989).

Agricultural output not only satisfied local demand but also contributed to the formation of interregional economic linkages through the supply of products to other regions. This indicates that the Zangilan district performed a functional role within the broader national economic system (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

In conclusion, prior to the occupation, agriculture in the Zangilan district functioned as the leading sector of the economy, the primary source of employment, and a key factor in ensuring social welfare. At the same time, as the sector was largely based on traditional methods, it possessed considerable potential for future modernization and technological advancement (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

Figure:

Agricultural Structure of the Zangilan District (Pre-occupation Period)



-Industry and Processing Sectors

In the pre-occupation period, the industrial sector of the Zangilan district remained relatively underdeveloped; however, processing activities closely linked to agriculture occupied a certain place within the economic structure. Given the predominantly agrarian orientation of the district's economy, industrial activities were largely based on the processing of local raw materials and primary production stages (State Statistical Committee of the Republic of Azerbaijan, 1992).

Although large-scale industrial enterprises were not widespread, small and medium-sized enterprises engaged in the processing of agricultural products operated in the district. These enterprises played an important role in the storage, processing, and marketing of agricultural goods. In particular, the following areas were notable:

- Food processing and canning industry: Enterprises involved in the processing,

preservation, and storage of fruits and vegetables were active. This sector contributed to reducing post-harvest losses and generating added value (State Statistical Committee of the Republic of Azerbaijan, 1992).

- Production of construction materials: Based on the local raw material base, construction materials were produced, supporting infrastructure development and construction activities within the district (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).
- Processing of local raw materials: The primary processing of agricultural and natural resource-based raw materials facilitated their integration into the regional economic cycle (USSR State Statistical Committee, 1989).

The development of these sectors contributed to the formation of linkages between agriculture and industry. Agricultural products served as inputs for processing enterprises, while processed goods entered the market with higher added value. This interaction fostered the emergence of a value chain within the regional economic system (Economic Geography of Azerbaijan, 2000).

Within the framework of the Soviet planned economy, industrial and processing activities were also regulated by the state, with production volumes and distribution centrally controlled. While this model ensured production stability, the weak competitive environment and limited application of innovations constrained the pace of industrial development (State Statistical Committee of the Republic of Azerbaijan, 1992).

At the same time, the relatively weak development of the industrial sector limited economic diversification and contributed to the district's continued dependence on agriculture. Nevertheless, considering the available natural resources and raw material base, the Zangilan district possessed significant potential for broader industrial development in the future (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

-Natural Resource Potential

In the pre-occupation period, the Zangilan district was regarded as one of the resource-rich regions of Azerbaijan in terms of natural endowments. The district's geological structure and the availability of mineral resources constituted key factors shaping its economic development prospects. In particular, the presence of mineral deposits served as an important economic base enhancing the district's future industrialization potential.

Various types of mineral resources were identified within the district, among which the following were of particular significance:

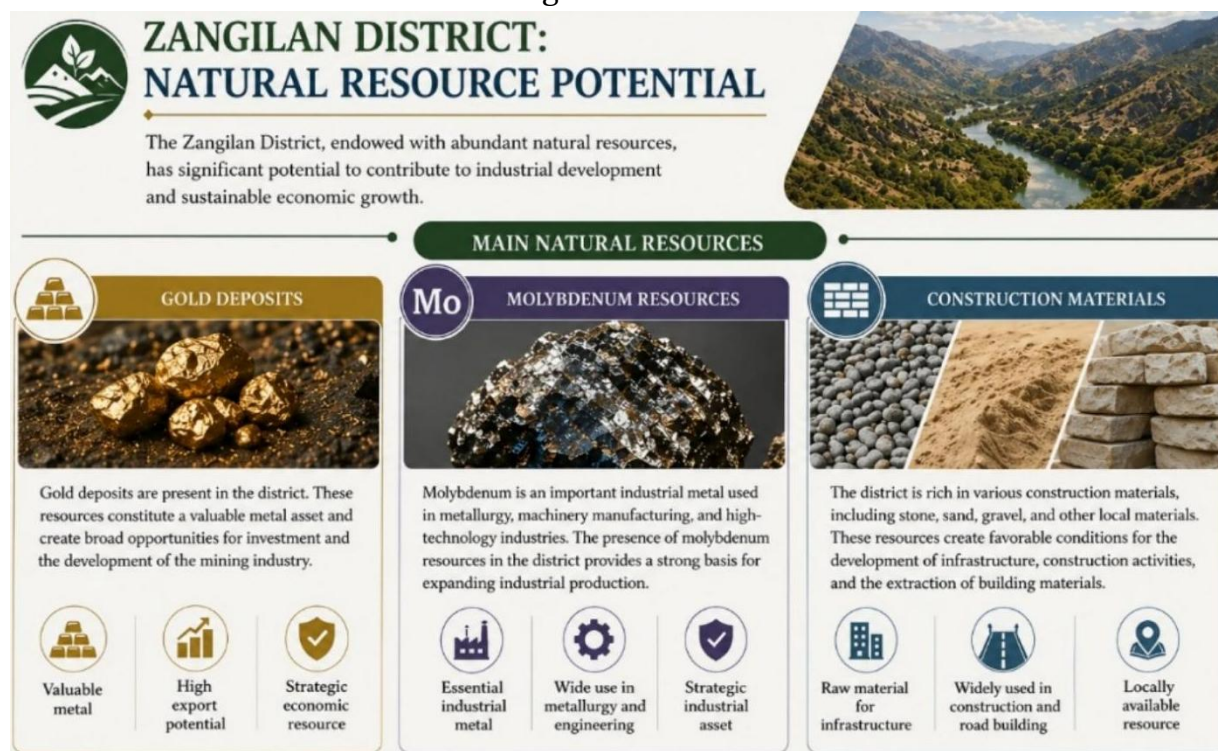
- Gold deposits: The Zangilan district was notable for its reserves of precious metals. The presence of gold deposits created favorable conditions for the development of the mining industry. These resources were considered strategically important and were regarded as having strong export potential in the long term.
- Molybdenum reserves: Molybdenum, as an industrially significant metal, is widely used in metallurgy and mechanical engineering. The existence of such reserves in the district was viewed as an important factor for expanding industrial production capacity.
- Construction materials: The district was also rich in various construction materials.

Deposits of stone, sand, gravel, and other local raw materials provided a solid foundation for construction and infrastructure development within the region. The availability of these resources formed a natural basis for the development of industrial sectors within the economic structure of the Zangilan district. However, within the framework of the Soviet planned economy, the full and efficient utilization of these resources remained limited, and their integration into large-scale industrial production was not fully realized.

At the same time, the presence of natural resources created significant opportunities for the diversification of the regional economy. The development of the mining industry, the establishment of processing enterprises, and the value-added processing of raw materials were considered important directions for future economic growth. Thus, the natural resource potential of the Zangilan district functioned as a strategic factor that played a significant role in its socio-economic development and provided a solid foundation for future industrialization processes (Economic Geography of Azerbaijan, 2000).

Figure:

Natural Resource Potential of the Zangilan District



-Social Infrastructure and Living Standards

In the pre-occupation period, the social infrastructure of the Zangilan district was developed to a certain extent, ensuring the population's access to basic social services. These infrastructural elements constituted an important component of the region's socio-economic development and played a significant role in maintaining living standards and promoting social welfare.

One of the key components of social infrastructure was the education system. General education schools and preschool institutions operated in the district, contributing to

the improvement of literacy levels and the formation of human capital. Educational institutions covered both urban and rural settlements; however, certain limitations existed in terms of material and technical resources (USSR State Statistical Committee, 1989).

Healthcare infrastructure also occupied an important place within the district's social system. A central district hospital and rural medical units provided primary healthcare services to the population. While these institutions ensured access to basic medical care and contributed to public health protection, the lack of modern medical equipment and specialized personnel affected the overall quality of services (State Statistical Committee of the Republic of Azerbaijan, 1992).

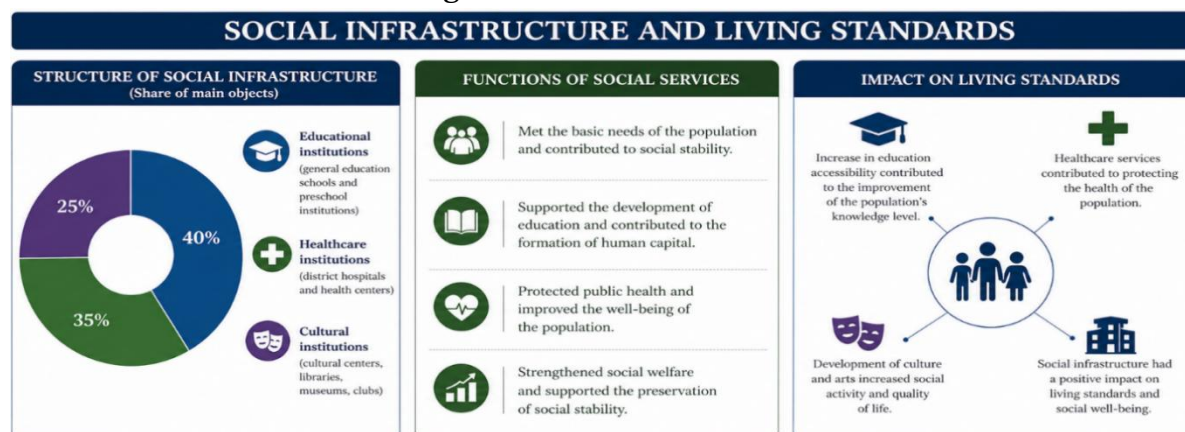
The district also possessed elements of cultural and social infrastructure. Cultural centers, libraries, and community clubs played a meaningful role in organizing leisure activities, hosting cultural events, and fostering social engagement. These facilities were particularly important in strengthening social integration, especially in rural areas (Economic Geography of Azerbaijan, 2000).

At the same time, the quality of social services and their material-technical base remained limited, reflecting the broader characteristics of the Soviet period. A portion of the infrastructure had become outdated, and modern technologies and innovative service approaches were not widely implemented. This, in turn, affected the efficiency of social services and, to some extent, the overall living standards of the population.

Overall, while the social infrastructure in the Zangilan district was developed at a level sufficient to meet the basic needs of the population, its advancement was constrained by limited resources and a centralized management model. Nevertheless, the existing foundation created a certain potential for the future modernization of social services and the improvement of living standards (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

Figure:

Social Infrastructure and Living Standards



-Infrastructure Provision

In the pre-occupation period, the transport and engineering infrastructure of the Zangilan district was developed primarily at a regional level and served to support economic activity. Infrastructure systems functioned as one of the key pillars of the district's socio-economic development, ensuring, in particular, the sustainability of

agricultural production and population settlement.

Transport infrastructure – The district was mainly connected to other territories through road networks. These roads linked rural settlements with the district center and played an important role in the transportation of goods and the establishment of interregional economic linkages. However, the technical condition and quality of the road network did not fully meet modern standards (State Statistical Committee of the Republic of Azerbaijan, 1992).

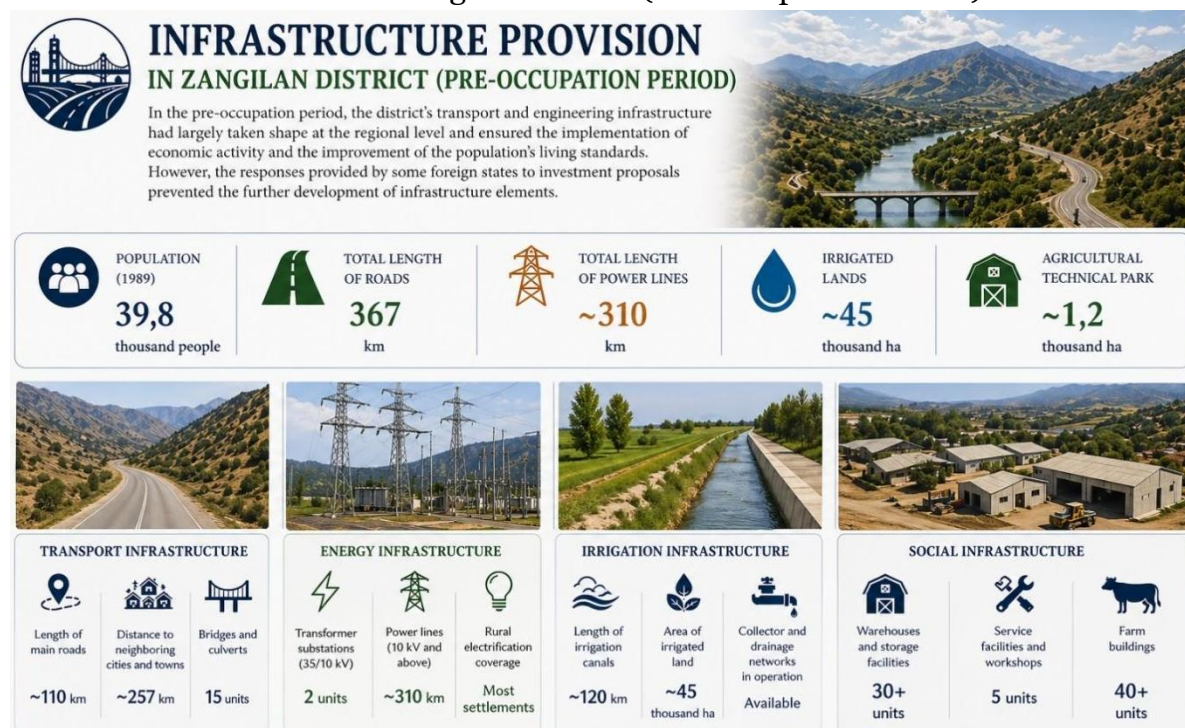
Energy supply – Electricity provision for both the population and economic entities was available in the Zangilan district. The power grid covered the main settlements and played a crucial role in meeting agricultural and household needs. Nevertheless, the technical level and reliability of the energy infrastructure were limited, and modern energy systems as well as alternative energy sources were not widely implemented (Economic Geography of Azerbaijan, 2000).

Water management and irrigation systems – Irrigation systems and land reclamation infrastructure played a significant role in shaping the district's agricultural potential. The location within the Araz River basin expanded access to water resources, enabling the establishment of irrigation systems for cultivated land. This contributed to increased productivity and supported the sustainable development of agriculture (USSR State Statistical Committee, 1989).

Agricultural infrastructure – Facilities related to agriculture, including storage units, technical service centers, and production facilities, were present. These supported the storage, processing, and transportation of agricultural products and played an essential role in organizing agricultural activities.

Overall assessment – Despite these developments, the district's infrastructure provision did not fully meet modern standards. A portion of infrastructure facilities had become outdated, and the level of technical renewal and modernization remained low. This, in turn, affected the efficiency of economic activity and, to some extent, the living standards of the population.

In conclusion, while infrastructure in the Zangilan district was developed to a level sufficient to meet basic needs, its overall advancement was constrained by limited technological capacity and the characteristics of the planned economic system. Nevertheless, the existing infrastructure base created certain potential for the region's comprehensive development in the future (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

Figure:**Infrastructure Provision in Zangilan District (Pre-occupation Period)****-General Assessment and Conclusion**

Based on the analyses presented above, it is possible to provide a comprehensive assessment of the pre-occupation socio-economic condition of the Zangilan district. The available evidence indicates that the district's economy was based on an agro-industrial model, with agriculture playing a dominant role in its economic structure. This was reflected in the concentration of both production and employment within the agricultural sector (State Statistical Committee of the Republic of Azerbaijan, 1992). From a demographic perspective, the district demonstrated stable growth dynamics, with population increases driven by natural growth. The high proportion of the working-age population served as an important resource for economic activity (USSR State Statistical Committee, 1989), ensuring the availability of labor for agriculture and other sectors.

The district's economic development model was primarily grounded in agriculture and natural resource potential. Fertile lands, water resources, and mineral reserves provided a favorable basis for economic activity. At the same time, industry and processing sectors functioned as complementary components to agriculture; however, large-scale industrialization did not fully materialize (Economic Geography of Azerbaijan, 2000).

In terms of social infrastructure, the Zangilan district possessed a moderately developed system. Educational, healthcare, and cultural institutions met the basic social needs of the population, although certain limitations were observed in terms of material-technical capacity and service quality (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

At the same time, the analysis reveals several constraints that limited the district's socio-economic development:

- low level of economic diversification;
- weak development of the industrial sector;
- technological and technical backwardness of infrastructure;
- limited application of market mechanisms.

These factors constrained the pace of development in the long term and hindered the full realization of the region's economic potential.

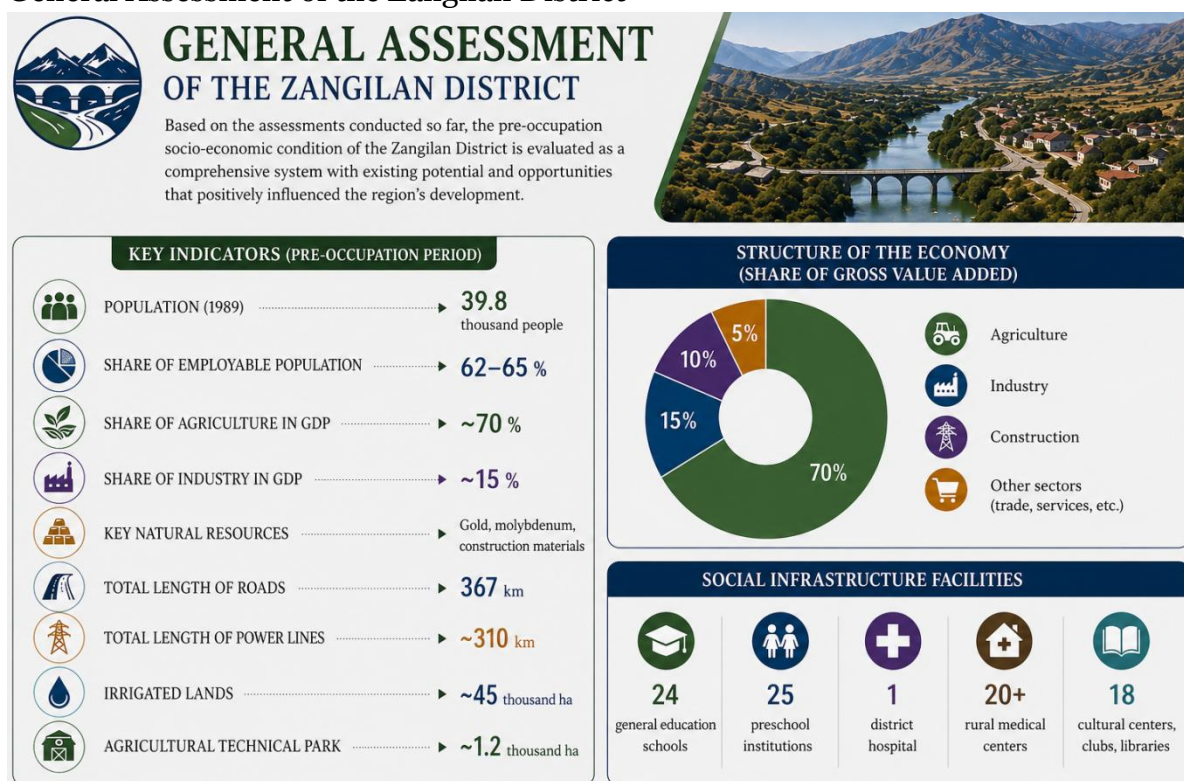
Thus, prior to the occupation, the Zangilan district can be characterized as a region:

- with an agro-industrial economic orientation;
- demographically stable and endowed with sufficient labor resources;
- based on a development model relying on agriculture and natural resources;
- possessing a moderately developed social infrastructure.

At the same time, despite its existing potential, structural challenges and limited technological advancement restricted the district's socio-economic development to a certain extent. This suggests that, with the implementation of more effective economic policies and modernization measures, the Zangilan district could be considered one of the regions with high development potential in the future.

Figure:

General Assessment of the Zangilan District



-Demographic Situation and Population Structure

Demographic indicators of the Zangilan district constitute one of the key foundations of the region's socio-economic development. At the current stage, the size, structure, and dynamics of the population directly influence both the formation of the labor market and the design of economic development strategies.

According to official data for early 2025, the district's population is approximately 42.9 thousand, with a population density of 61 persons per km². These figures indicate that

Zangilan belongs to moderately populated areas and reflect its potential for both agricultural development and future urbanization.

Population Structure and Settlement Patterns

The settlement structure of the district is characterized by the predominance of rural habitation. Approximately 58% of the population resides in rural areas, while around 42% live in urban settlements and townships (State Committee for Urban Planning and Architecture, 2024). This feature further confirms the agrarian orientation of the region's economic profile.

In terms of ethnic composition, the population is highly homogeneous. More than 99.8% of residents are Azerbaijanis, while the share of other ethnic groups remains negligible. This factor contributes positively to social stability and cultural cohesion.

Demographic Dynamics and Natural Growth

Recent statistical data indicate certain changes in demographic processes. In particular:

- In 2024, natural population growth amounted to 173 persons;
- Although the birth rate has slightly declined compared to previous years, the overall trend remains stable;
- A relative decrease in mortality has been observed.

While the natural growth rate per 1,000 population has slightly decreased in recent years, it remains positive, indicating the preservation of demographic sustainability in the region.

Age Structure and Labor Resources

The age distribution shows that the working-age population constitutes a significant share of the total population, particularly those aged 20–64. This creates favorable conditions for:

- the formation and expansion of the labor market;
- increased economic activity;
- enhanced investment attractiveness of the region.

At the same time, the presence of an aging population segment increases the importance of social protection systems.

Gender Balance

The ratio of male to female population in the district is relatively balanced, with a slight predominance of women. This corresponds to general demographic trends and indicates a stable social structure.

Family and Socio-Demographic Indicators

Marriage and divorce statistics also reflect important demographic processes. In recent years:

- the number of marriages has remained relatively stable;
- a moderate increase in divorce rates has been observed.

These trends may be explained by the transformation of social relations and the influence of urbanization processes.

Living Standards and Qualitative Demographic Indicators

One of the key qualitative indicators of demographic development—life expectancy—has increased to 77.3 years in recent years. This reflects improvements in healthcare services and overall social conditions.

At the same time:

- infant mortality rates remain low;
- no cases of maternal mortality have been recorded.

These factors indicate positive trends in the qualitative aspects of demographic development.

Overall Assessment

The demographic situation of the Zangilan district can be characterized by the following key features:

- stable and positive population growth dynamics;
- predominance of rural population;
- a high share of working-age population;
- ethnic homogeneity and social stability;
- gradual improvement in quality of life.

These characteristics form a solid demographic foundation for the region's future socio-economic development and serve as one of the key factors strengthening the development prospects of the Zangilan district.

-Employment and Labor Market Characteristics

In recent years, the employment system and labor market of the Zangilan district have entered a phase of dynamic development, largely driven by post-conflict recovery and resettlement processes. In particular, the increase in employment observed during 2023–2025 is closely associated with state-led reintegration policies, economic revitalization measures, and the expansion of infrastructure and reconstruction projects.

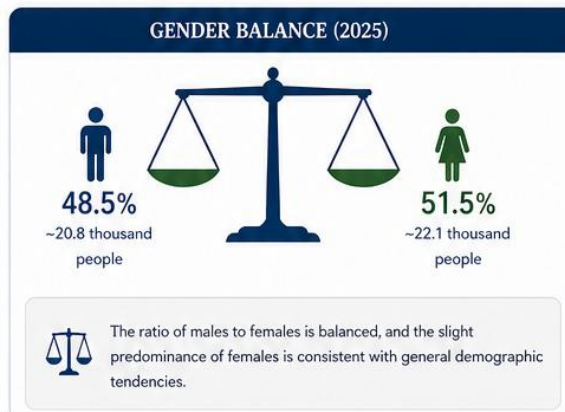
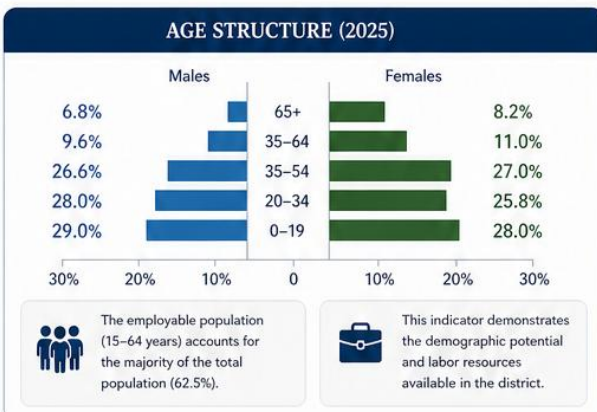
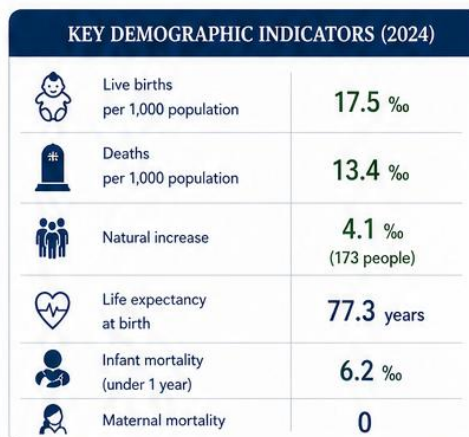
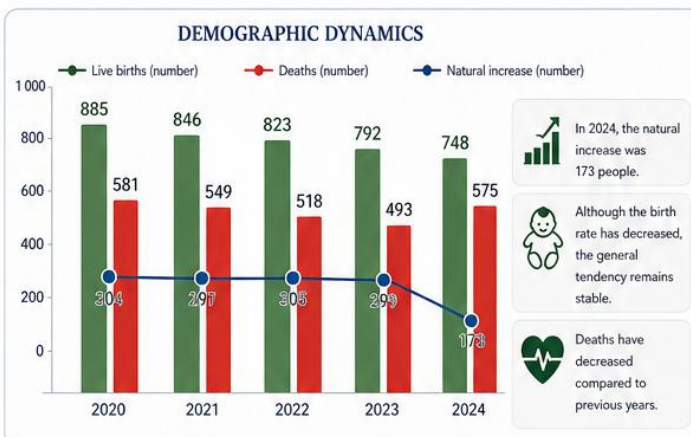
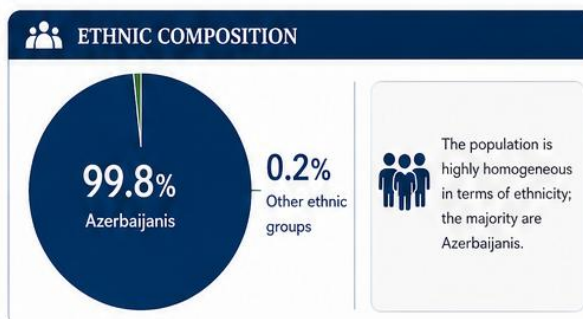
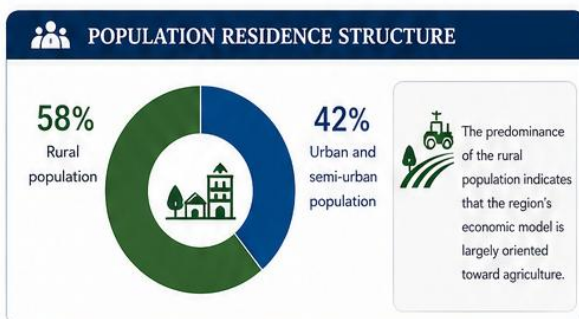
Overall Employment Dynamics

Statistical trends confirm a steady increase in employment across the district. The creation of new jobs-especially as a result of public investments and construction-rehabilitation activities-has stimulated labor market activity.

Figure:**Demographic Situation and Population Structure**

DEMOGRAPHIC SITUATION AND POPULATION STRUCTURE ZANGILAN DISTRICT

Demographic indicators are one of the main determinants of socio-economic development in the Zangilan District and play an important role in shaping future development strategies and sustainable growth.



During this period:

- the number of individuals entering the labor market has increased;
- the economically active population has expanded;
- structural changes have occurred in the sectoral distribution of employment.

Structure of the Labor Market

The labor market in Zangilan is characterized by several key structural features:

- Prevalence of wage employment: A significant share of the workforce is employed under formal labor contracts in both public and private sectors, reflecting the expansion of formal employment and the legalization of labor relations.
- Development of self-employment: Within the framework of state programs, self-employment initiatives have expanded, particularly in agriculture and services, leading to the emergence of small business entities.
- Sectoral distribution: The majority of labor resources are concentrated in agriculture, construction, and services, reflecting the structural characteristics of the regional economy.

State Policy and Employment Promotion

The role of the state has been decisive in promoting employment. Programs implemented by the Ministry of Labor and Social Protection of the Population of the Republic of Azerbaijan include:

- vocational training for unemployed individuals;
- provision of assets to support self-employment initiatives;
- integration of socially vulnerable groups into the labor market.

These measures have contributed to enhancing inclusiveness and strengthening social protection within the labor market.

Unemployment and Social Protection

Despite improvements in employment levels, unemployment has not been fully eliminated. It is mainly associated with:

- skill mismatches;
- structural imbalances within the labor market;
- challenges related to ongoing resettlement processes.

At the same time, state-implemented social protection mechanisms-such as unemployment benefits, social assistance programs, and active labor market policies-play an important role in safeguarding the population's welfare.

Transformation of the Labor Market

The labor market in Zangilan can be characterized as a regional system undergoing transformation. Its main features include:

- transition from a planned to a market-based economy;
- structural shifts from agriculture toward construction and service sectors;
- gradual emergence of digital and innovative forms of employment.

These transformations are expected to contribute to increased labor productivity and greater economic diversification in the long term.

Overall Assessment

The labor market of the Zangilan district is characterized by:

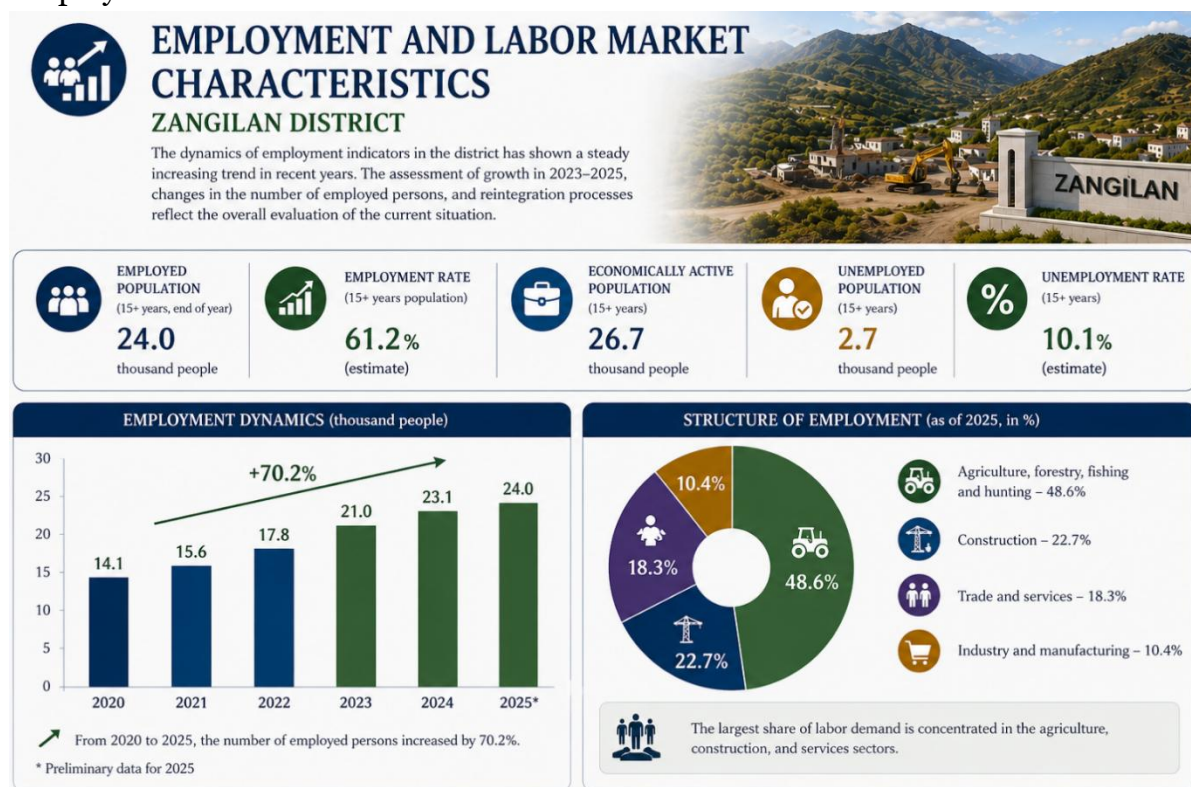
- a positive and growing employment dynamic;
- strong state support mechanisms;

- the development of self-employment and small businesses;
- the persistence of certain unemployment challenges;
- the active implementation of social protection measures.

These features indicate that the labor market is evolving but not yet fully mature, while simultaneously demonstrating substantial potential for the establishment of a more sustainable and diversified employment model in the future.

Figure:

Employment and Labor Market Characteristics



-Economic Development and Sectoral Structure

Agriculture

Agriculture continues to serve as the leading sector of the Zangilan district's economy and plays a central role in its socio-economic development. The region's favorable natural and geographical conditions-fertile soils, location within the Araz River basin, availability of water resources, and suitable climate-create a solid foundation for the diversified development of agriculture.

According to official data, approximately 63.6% of the district's land fund consists of agricultural land, confirming the dominant position of the agrarian sector within the economic structure.

Main Directions of Agricultural Development

Agricultural production in the district is structured around three primary areas:

Crop production - This forms the backbone of the agricultural sector:

- Grain production plays a key role in ensuring food security and occupies a significant share of cultivated land.
- Horticulture and vegetable cultivation have developed in line with the region's

climatic conditions and contribute both to domestic supply and interregional trade.

- Viticulture and gardening are also considered promising directions with strong development potential.

According to statistical data, grain production reached 6,808.5 tons in 2024.

Livestock farming - This represents the second major component of agriculture:

- Extensive pasturelands support the development of both cattle and small ruminant breeding.
- Meat and dairy production meet local consumption needs while also contributing to market supply.

In recent years:

- livestock production has shown an upward trend;
- milk production has demonstrated stable dynamics.

Production and Economic Significance

The agricultural sector performs several key functions within the regional economy:

- Employment generation: A significant share of the population is engaged in agriculture, making it the primary source of income in rural areas.
- Food security: Local production ensures the supply of essential food products to the domestic market.
- Interregional economic integration: Agricultural products are distributed to other regions, contributing to broader economic circulation.

Development Trends and Structural Changes

Recent developments indicate positive changes in the agricultural sector:

- gradual adoption of modern technologies;
- accelerated development supported by state policies;
- restoration of irrigation systems, contributing to increased productivity.

However, several challenges persist:

- insufficient technical equipment;
- low level of diversification in agricultural production;
- productivity levels not fully aligned with existing potential.

Overall Assessment

In the Zangilan district, agriculture functions as:

- the leading sector of the economy;
- the primary source of employment;
- a key pillar of food security.

At the same time, considering the available resource potential and ongoing state support, the agricultural sector possesses significant opportunities to evolve into a more productive and value-added segment of the economy in the future.

Figure:**Economic Development and Economic Structure****ECONOMIC DEVELOPMENT
AND ECONOMIC STRUCTURE
(AGRICULTURE SECTOR)****ZANGILAN DISTRICT**

Agriculture plays an important role in the economy of Zangilan District as a key sector and makes a significant contribution to the region's socio-economic development.

**-Industry and Processing Sectors**

In the Zangilan district, the industrial sector has historically developed as a component of the agrarian economy and has been primarily oriented toward the processing of agricultural products. Although industry does not occupy a leading position in the district's economic structure, existing processing enterprises operate in close interaction with agriculture and contribute significantly to the formation of a local value chain.

General Characteristics of the Industrial Sector

The absence of large-scale industrial enterprises has led to the development of industry mainly in the form of small and medium-sized processing facilities. These enterprises are largely based on local raw materials and focus on the primary processing of agricultural output. Industrial activity has evolved along the following main directions:

Main Industrial Branches

Food and canning industry - This represents one of the principal directions of the district's industrial activity:

- preservation and canning of fruits and vegetables;
- primary processing and storage of food products;
- preparation of local products for market distribution.

This sector plays an important role in reducing post-harvest losses and generating added value (Ministry of Labor and Social Protection of the Population of the Republic of Azerbaijan, 2024).

Production of construction materials

The district's natural resource base has enabled the development of construction material production:

- extraction and processing of stone, sand, and gravel;
- manufacturing of construction inputs based on local raw materials.

This sector supports construction and infrastructure development within the region.

Processing of local raw materials

Various processing activities are carried out based on agricultural and natural resources:

- primary processing of agricultural raw materials;
- production of simple industrial goods.

These processes contribute to expanding economic circulation within the region and stimulating local production.

Agro-Industrial Integration

A defining feature of the industrial sector in Zangilan is its direct integration with agriculture:

- agricultural products serve as raw materials for industrial processing;
- processing enterprises deliver products to the market with higher added value.

This interaction has facilitated the formation of an agro-industrial complex, ensuring functional coherence within the regional economy (Economic Potential of the Karabakh and Eastern Zangezur Regions, 2021).

Constraints on Industrial Development

The development of the industrial sector has been limited by several factors:

- absence of large industrial enterprises;
- low technological level;
- insufficient investment;
- underdeveloped market mechanisms.

As a result, industry has not emerged as a leading sector of the economy and has primarily played a supporting role.

Development Prospects

Considering the available resource base and favorable geographical location, several promising directions for industrial development can be identified:

- deep processing of agricultural products;
- development of the mining industry;
- establishment of industrial parks and processing zones;
- promotion of export-oriented production.

Advancement in these areas could strengthen economic diversification and increase

the share of industry in the regional economy.

Overall Assessment

In the Zangilan district, industry and processing sectors:

- function as complementary components to agriculture;
- are based on local raw materials;
- contribute to the formation of economic value chains.

However, despite the existing potential, the limited development of the industrial sector reflects weak economic diversification and confirms the presence of substantial opportunities for further industrial growth.

Figure:

Industry and Processing Sectors



-Natural Resource Potential (Extended and Referenced Analysis)

The Zangilan district is considered one of the resource-rich regions of Azerbaijan in terms of mineral endowments, and these resources represent a key determinant of its socio-economic development prospects. The district's geological structure, characterized by mountainous and foothill terrain, along with the presence of rocks of various origins, has created favorable conditions for the formation of diverse mineral deposits.

Major Mineral Resources

Gold deposits (Vejnali)

One of the most strategically significant resources of the district is the Vejnali gold deposit:

- Estimated reserves: approximately 6.5 tons;
- Strategic importance: high export potential and capacity to generate foreign currency revenues.

Gold reserves constitute a fundamental basis for the development of the mining

industry and create opportunities for the emergence of high-value industrial sectors in the future.

Limestone and construction materials

The Zangilan district possesses a substantial raw material base for the construction industry:

- Limestone reserves: exceeding 129 million cubic meters;
- availability of construction stone and facing materials;
- deposits of sand, gravel, and other construction inputs.

These resources provide extensive opportunities for infrastructure development and stimulate the growth of local production.

Other mineral resources

The district is also endowed with a variety of additional mineral resources:

- non-metallic minerals;
- raw materials suitable for local industrial use.

These resources have potential applications in construction, processing industries, and broader industrial activities.

General Characteristics of Deposits

According to available data:

- a total of 11 mineral deposits has been identified in the district;
- 6 of these deposits have been exploited.

This indicates that the district's resource potential has only been partially utilized, leaving considerable reserves for future development.

Economic Significance of Natural Resources

The natural resources of the Zangilan district play a crucial role in several key areas:

- Foundation for industrialization: supporting the development of mining and processing industries;
- Export potential: particularly gold and construction materials, which can be supplied to international markets;
- Infrastructure development: availability of local construction materials reduces project costs;
- Employment generation: mining and processing activities create new job opportunities.

Development Prospects and Challenges

Despite the significant resource base, the utilization of natural resources has been constrained by several factors:

- limited technological capacity;
- insufficient investment;
- infrastructure deficiencies;
- environmental risks.

To ensure sustainable development of the sector, the following priorities are identified:

- adoption of modern technologies;
- attraction of both domestic and foreign investments;
- establishment of processing enterprises;
- ensuring environmental sustainability.

Overall Assessment

The natural resource potential of the Zangilan district:

- possesses high economic and strategic importance;
- serves as a fundamental basis for industrialization and economic diversification;
- represents a key determinant of the region's future development trajectory.

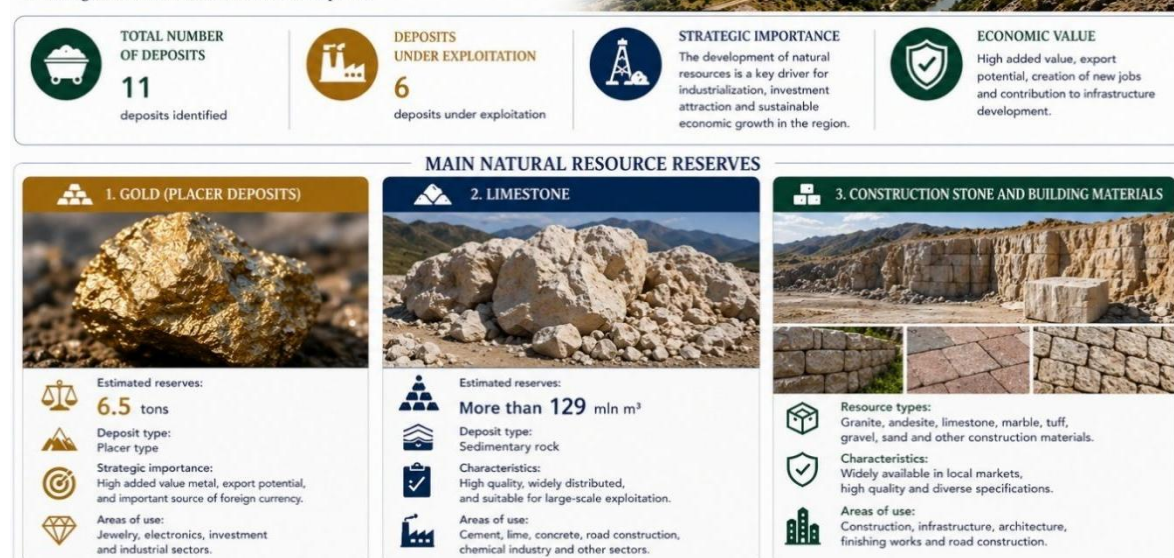
The efficient and sustainable utilization of these resources can significantly enhance the district's economic potential and strengthen its role within the national economy.

Figure:

Natural Resource Reserves

NATURAL RESOURCE RESERVES ZANGILAN DISTRICT

The territory of Zangilan District is rich in useful minerals.
The existing deposits create a strong basis for the future industrialization
of the region and sustainable economic development.



-Social Infrastructure and Living Standards

Social infrastructure in the Zangilan district represents a key component of regional socio-economic development and plays a decisive role in shaping the population's quality of life. Available indicators suggest that the system of social services has generally been established and functions at a level sufficient to meet the basic needs of the population.

Education Infrastructure and Human Capital

The education system constitutes one of the leading components of social infrastructure in the district:

- In the 1992–1993 academic year, 67 general education schools were in operation;
- By 2020–2021, this number decreased to 33 schools, reflecting demographic and structural changes in the region.

An analysis of educational attainment shows that:

- the share of individuals with higher education is relatively significant;
- general secondary education remains predominant;
- vocational and specialized education is gradually developing.

These trends are important for strengthening human capital and improving the quality of the labor market.

Healthcare Infrastructure and Quality of Life

Healthcare services in the district are primarily provided through public medical institutions, including:

- a central district hospital;
- rural medical units.

These facilities ensure access to primary healthcare services for the population. Key indicators demonstrate:

- life expectancy has reached 77.3 years;
- infant mortality rates remain low;
- no cases of maternal mortality have been recorded.

These figures indicate a generally satisfactory level of healthcare provision and improvements in living conditions.

Culture and Social Life

Various cultural institutions operate within the district, contributing to the organization of social life:

- cultural centers;
- libraries;
- community clubs.

These institutions play a significant role in organizing leisure activities, promoting cultural development, and strengthening social integration.

Social Protection System

Social protection mechanisms in the Zangilan district are implemented through state programs and policies. The main directions include:

- pension provision systems;
- social benefits and targeted state assistance;
- support programs for low-income families.

These measures contribute to maintaining social welfare and ensuring social equity (Ministry of Labor and Social Protection of the Population of the Republic of Azerbaijan).

General Characteristics of Living Standards

Living standards in the district are characterized by:

- access to essential social services;
- functioning education and healthcare systems;
- the implementation of social protection mechanisms.

At the same time, certain limitations remain:

- the material and technical base is not fully modernized;
- regional disparities in service quality persist;
- some areas of social infrastructure require further upgrading.

Overall Assessment

Social infrastructure and living standards in the Zangilan district can be characterized as:

- moderately developed;
- capable of providing essential social services;
- possessing significant potential for modernization.

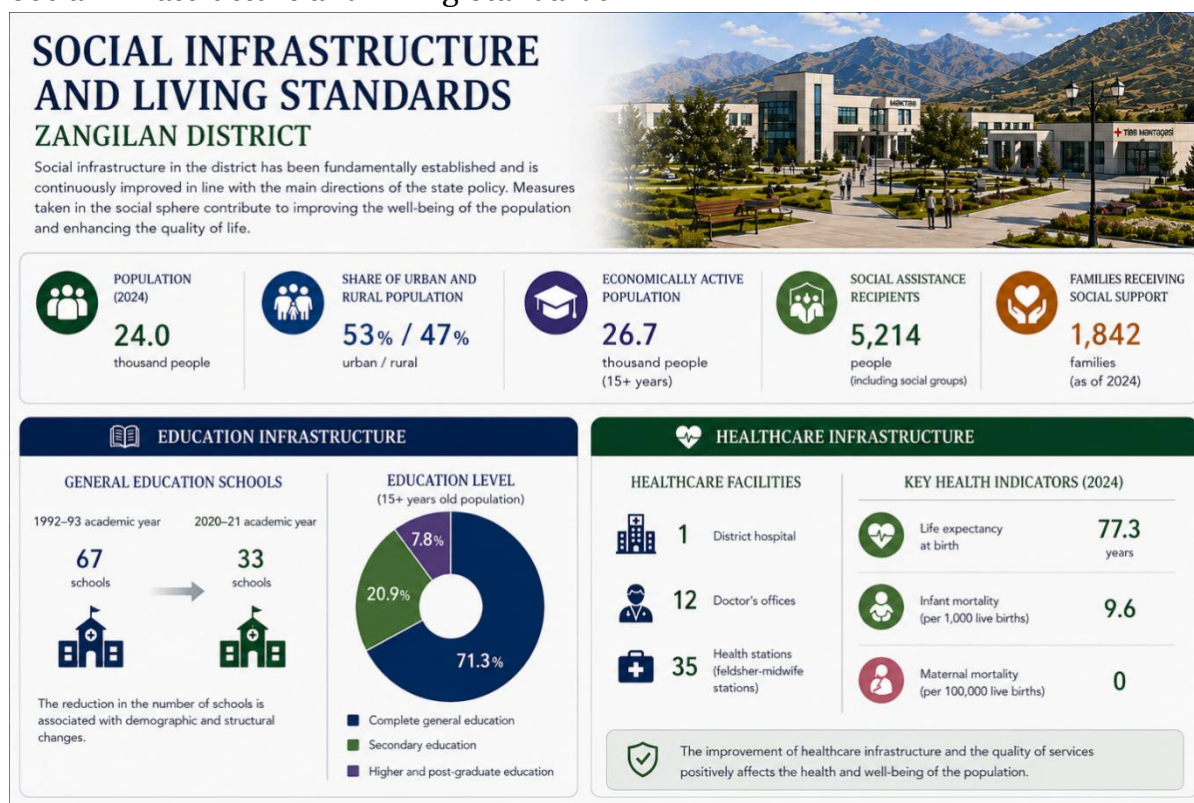
For future development, the following priorities are particularly important:

- modernization of education and healthcare infrastructure;
- improvement of service quality;
- implementation of digital and innovative solutions in social services.

These measures will contribute to enhancing overall living standards and supporting sustainable socio-economic development in the region.

Figure:

Social Infrastructure and Living Standards



-Infrastructure Provision

Infrastructure provision in the Zangilan district represents one of the fundamental pillars of regional socio-economic development and directly affects the efficiency of economic activity. Available evidence indicates that while the district's infrastructure has been formed at a basic regional level, it is characterized by certain limitations in terms of compliance with modern standards.

Transport Infrastructure

The transport system of the district is primarily based on road networks:

- connections within the district and with other regions are ensured mainly through highways;
- rural settlements are linked to the district center.

These roads play a key role in:

- the transportation of agricultural products;
- the establishment of interregional trade relations;
- ensuring access to social services.

However, the technical condition and quality of the road infrastructure have not fully met modern standards (State Statistical Committee of the Republic of Azerbaijan).

Energy Supply

Electricity supply in the district has generally been available and has met the needs of both households and economic entities (Ministry of Energy of the Republic of Azerbaijan, 2024):

- the power grid covers the main settlements;
- energy supply supports agricultural and domestic activities.

Nevertheless:

- the technical reliability of energy systems remains limited;
- the use of alternative and renewable energy sources is not yet widespread (Ministry of Economy of the Republic of Azerbaijan, 2021).

Water Management and Irrigation Systems

Irrigation systems constitute a key component of the district's agricultural infrastructure:

- the location within the Araz River basin provides access to water resources;
- irrigation and land reclamation systems support agricultural land use.

These systems contribute to:

- increased agricultural productivity;
- the sustainable development of the agrarian sector.

Utility and Engineering Infrastructure

Municipal and engineering infrastructure has been developed to a certain extent:

- water supply systems;
- sanitation and sewage infrastructure;
- technical service facilities supporting agriculture.

However, several issues persist:

- aging infrastructure networks;
- technical deficiencies;
- disparities in service quality.

Economic Role of Infrastructure

Infrastructure provision contributes to economic development through:

- facilitating the expansion of production;
- reducing logistics and transportation costs;
- increasing investment attractiveness;
- improving living standards.

Existing Problems and Constraints

The infrastructure system faces several challenges:

- deterioration of existing infrastructure;
- limited application of modern technologies;
- insufficient investment;
- uneven quality of services.

These factors have negatively affected the efficiency of economic activity and the pace of development.

Development Prospects

Considering the existing potential, the following directions are identified as priorities for infrastructure development:

- modernization of road and transport networks;

- upgrading energy systems and expanding renewable energy use;
- improvement of irrigation and land reclamation systems;
- implementation of digital and “smart infrastructure” technologies.

Overall Assessment

Infrastructure provision in the Zangilan district can be characterized as:

- a system that supports basic economic activities;
- yet requiring significant modernization.

The development of infrastructure remains a priority for unlocking the region’s full economic potential and ensuring sustainable long-term development.

-General Assessment

Comprehensive analysis indicates that the Zangilan district represents a region with distinctive socio-economic characteristics when comparing pre- and post-occupation periods. Its development model has predominantly followed an agro-industrial orientation; however, the existing resource base demonstrates the potential for a more diversified and complex economic structure.

Overall Characteristics of the Economic Structure

The economy of the Zangilan district has largely been based on agriculture, which accounts for the majority of both production and employment. Alongside this, the industrial sector has mainly been represented by processing activities that complement the agrarian sector.

In this context, the district can be characterized as:

- having an agro-industrial economic model;
- possessing a production structure based on local raw materials;
- playing a functional role in interregional economic relations.

Demographic and Labor Potential

From a demographic perspective, the district has demonstrated stable development patterns:

- positive population growth dynamics;
- a high proportion of working-age population;
- social stability and ethnic homogeneity.

These factors have created a strong human resource base for economic development.

Natural Resources and Economic Potential

One of the key advantages of the Zangilan district is its rich natural resource base, including:

- gold deposits;
- construction materials;
- other mineral resources.

These resources form a strategic foundation for future industrialization and economic diversification (Ministry of Agriculture of the Republic of Azerbaijan, 2024).

State of Social Infrastructure

Social infrastructure in the district has generally been established and capable of meeting basic population needs:

- functioning education and healthcare systems;
- implementation of social protection mechanisms;
- availability of cultural and social institutions.

However, certain limitations have been observed in terms of service quality and material-technical capacity.

Key Problems and Constraints

The analysis also highlights several challenges limiting regional development:

Low level of economic diversification:

- high dependence on agriculture;
- underdevelopment of non-oil and non-agricultural sectors.

Limited industrial development:

- absence of large industrial enterprises;
- processing industry remaining at an initial stage.

Infrastructure deficiencies:

- outdated transport and energy systems;
- limited application of modern technologies;
- weak logistics capabilities.

These factors have constrained the full realization of the district's economic potential.

Development Prospects

Considering available resources and geographical advantages, the Zangilan district has significant development opportunities in the following areas:

- modernization of agriculture and increased productivity;
- expansion of industrial and processing sectors;
- efficient utilization of natural resources;
- infrastructure renewal and digitalization;
- improvement of the investment climate.

Implementation of these measures can strengthen the economic structure and ensure sustainable development.

Conclusion

In summary, the Zangilan district can be characterized as a region:

- with an agro-industrial economic orientation;
- demographically stable;
- endowed with rich natural resource potential;
- possessing a moderately developed social infrastructure.

At the same time, the presence of structural challenges indicates that diversification, industrialization, and infrastructure modernization should be prioritized. If these measures are effectively implemented, the Zangilan district has the potential to become one of the most перспективные (promising) economic regions of Azerbaijan in the future.

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