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## THE MAIN DEMOGRAPHIC PROBLEMS OF CITIES IN THE LOWER REACHES OF THE KURA RIVER IN AZERBAIJAN

Geo-demographic conditions and regulation of the development of an urban settlement in the lower reaches of the Kura River is a certain part of the sustainable socio-economic policy pursued in the Republic of Azerbaijan. There was a need to study the demographic conditions of cities for a more efficient territorial organization of production and population in the region. The article analyzes the formation and development of an urban settlement in the lower reaches of the Kura River, the dynamics of the level of urbanization in administrative districts. The creation and development of industrial zones in the lower reaches of the Kura River, the opening of new work places created conditions for the concentration of the population in cities along with regional centers, which in turn gave impetus to the development of cities. It was determined that more than 38% of the population, most of the industrial and socio- economic potential of the region are concentrated in 7 cities (Mingachevir, Yevlakh, Zardab, Sabirabad, Salyan, Shirvan, Neftchala). In 2021, the share of industry in the total volume of production in the main areas in the region increased to 25%. In the course of the research, the variability of the dynamics of the population of the cities for 1989-2021 was studied. As a result of the research, it was determined that the factor that played the most important role in the growth of the urban population in the cities of the region was natural growth. Thus, it was determined that 81.5% of the increase in the urban population of the region in the years under study was due to natural growth, and the rest – due to giving the settlement status to villages. The largest natural growth was noted in the cities of Sabirabad (165.12%) and Zardab (153.84%), where the main occupation is agriculture, and the smallest natural growth was in Mingachevir, the largest industrial city of the region (129.52%). As a result, appropriate recommendations were given to resolve the problems of the demographic development of cities located in the lower reaches of the Kura River.

Key words: population, urbanization, industry, natural growth, settling, employment.

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# Әзірбайжандағы Кура өзенінің төменгі ағысындағы қалалардың негізгі демографиялық мәселелері

Геодемографиялық жағдайларды реттеу және Құра өзенінің төменгі ағысында қалалық елді мекенді дамыту Әзірбайжан Республикасында жүргізіліп жатқан тұрақты әлеуметтікэкономикалық саясаттың белгілі бір бөлігі болып табылады. Өңірдегі өндіріс пен халық санын тиімдірек аумақтық ұйымдастыру үшін қалалардың демографиялық жағдайын зерттеу қажеттілігі туындады. Мақалада Кура өзенінің төменгі ағысындағы қалалық елді мекеннің қалыптасуы мен дамуы, әкімшілік аудандардағы урбанизация деңгейінің динамикасы талданады. Кура өзенің төменгі ағысында индустриалды аймақтардың құрылуы мен дамуы, жаңа жұмыс орындарының ашылуы халықтың облыс орталықтарымен қатар қалаларға шоғырлануына жағдай туғызды, бұл өз кезегінде қалалардың дамуына серпін берді. Облыс халқының 38%-дан астамы, өндірістік және әлеуметтік-экономикалық әлеуетінің басым бөлігі 7 қалада (Мингачевир, Евлах, Зардаб, Сабирабад, Салян, Ширван, Нефтчала) шоғырланғандығы анықталды. 2021 жылы облыста негізгі бағыттар бойынша өндірістің жалпы көлеміндегі өнеркәсіп үлесі 25 пайызға дейін өсті. Зерттеу 1989-2021 жылдардағы қала халқының динамикасының өзгермелілігін зерттеді. Зерттеу нәтижесінде зерттелетін қалалардағы қала халқының өсуіне ең маңызды рөл атқарған фактор табиғи өсім екені анықталды. Мәселен, зерттеліп отырған жылдардағы облыстағы қала халқының өсімінің 81,5 пайызы табиғи өсім есебінен, қалғаны ауылдарға ауыл мәртебесін беру есебінен екені анықталды. Ең көп табиғи өсім негізгі кәсібі ауыл шаруашылығы болып табылатын Сабирабад (165,12%) және Зардаб (153,84%) қалаларында, ал ең аз табиғи өсім облыстың ірі

өнеркәсіптік қаласы Мингачевирде (129,52%) байқалды. Қорытындысында Құра өзенінің төменгі ағысында орналасқан қалалардың демографиялық даму мәселелерін шешу бойынша тиісті ұсыныстар берілді.

Түйін сөздер: халық, урбанизация, өнеркәсіп, табиғи өсім, қоныс аудару, жұмыспен қамту.

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#### Основные демографические проблемы городов в низовьях реки Кура в Азербайджане

Регулирование геодемографических условий и развитие городского поселения в низовьях реки Куры является определенной частью устойчивой социально-экономической политики, проводимой в Азербайджанской Республике. Возникла необходимость изучения демографических условий городов для более эффективной территориальной организации производства и населения в регионе. В статье анализируются становление и развитие городского поселения в низовьях реки Куры, динамика уровня урбанизации в административных районах. Создание и развитие промышленных зон в низовьях Куры, открытие новых рабочих мест создали условия для концентрации населения в городах наряду с районными центрами, что в свою очередь дало толчок развитию городов. Определено, что более 38 % населения, большая часть промышленного и социально-экономического потенциала области сосредоточены в 7 городах (Мингячевир, Евлах, Зардаб, Сабирабад, Сальян, Ширван, Нефтчала). В 2021 году доля промышленности в общем объеме производства по основным направлениям в регионе увеличилась до 25%. В ходе исследования изучалась изменчивость динамики численности населения городов за 1989-2021 годы. В результате исследования было определено, что фактором, сыгравшим важнейшую роль в росте городского населения в изучаемых городах, был естественный прирост. Таким образом, было определено, что 81,5 % прироста городского населения области в изучаемые годы произошло за счет естественного прироста, а остальная часть – за счет придания посёлочного статуса селам. Наибольший естественный прирост отмечен в городах Сабирабад (165,12 %) и Зардаб (153,84 %), где основным занятием является сельское хозяйство, а наименьший естественный прирост – в Мингячевире, крупнейшем промышленном городе области (129,52 %). В итоге были даны соответствующие рекомендации по урегулированию проблем демографического развития городов, расположенных в низовьях реки Кура.

Ключевые слова: население, урбанизация, промышленность, естественный прирост, расселение, занятость.

## Introduction

The strengthening of integration trends between countries, the expansion of globalization processes, the strengthening of the role of social and environmental factors in economic development, the implementation of state policy in the field of demography require the solution of new tasks that have no analogues in the international community and in the regions. The twentieth century was marked by the growth of the world's population, the dynamics of socio-economic indicators, climate change, a decrease in biodiversity and a violation of the ecological system in the history of mankind. The history of the development of society has proved that the processes taking place in the economy and society are inextricably linked with environmental and socio-demographic problems. It is the definition of these relations and the

creation of a socio-economic concept on their basis that is currently one of the most urgent problems. In this direction, scientists from different countries conducted multidisciplinary research (Brennan et all., 2005; Leetmaa et all., 2015; Nagiev and Efendiev, 2016; Meili and Mayer, 2017; Andersen and Nørgaard, 2018; Yelin and Pashin, 2019; Simagin et all., 2019; Ocejo et all., 2020; Semeko, 2021; Grossmann & Mallach, 2021; Wagner and Growe, 2021).

Quantitative and qualitative indicators related to the population and its structure are the main elements of national power, and, of course, issues such as protecting the gene pool of the Azerbaijani people, migration and demography are very important from the point of view of national security. In this regard, the development of the social sphere and human capital is one of the main priorities of the "Concept of Sustainable Development" (Demographic development concept of the Republic of Azerbaijan, 1999: 2-3).

As a result of the socio-economic reforms successfully implemented in the Republic of Azerbaijan over the past 20 years, especially over the past 10 years, the demographic situation and average annual population growth in the country have improved, life expectancy has been extended and a positive migration balance has been achieved. In recent years, the population of Azerbaijan has increased rapidly and has exceeded 10 million people. In the past period, the growth rate of the rural population was higher than that of the urban population (Population of Azerbaijan, 2017:47-51).

Socio-economic reforms carried out in the Republic of Azerbaijan since 2003, sustainable macroeconomic stability, strengthening the system of social protection of the population, reducing poverty and improving the living standards of the population also had a positive impact on demographic development. During this period, as a result of the measures taken to improve the health of the population, there was a decrease in mortality, especially infant mortality, an increase in life expectancy, a decrease in the migration flow from the country, and there is a gradual transition to a positive balance of migration.

Demographic policy as part of the general social policy is currently of particular importance in the Republic of Azerbaijan. In this regard, in order to achieve the development of demographic processes in accordance with the socio-economic strategy of the country and improve the demographic situation, in 1999 the "Concept of the demographic development of the Republic of Azerbaijan" was adopted, on the basis of this, by the Decree of the President of the Republic of Azerbaijan dated November 11, 2004, " State Program in the field of demography and development of population resettlement" was approved (Demographic development concept of the Republic of Azerbaijan, 1999:3).

Although Mingachevir, Shirvan, Yevlakh and other cities of the region played a progressive role in the development of the country's economy, their positions in the development of urbanization were weak. For this reason, the region lagged far behind the national level in the development of natural growth in the period 1999-2022. To solve the problems that arise in the demographic development of urban areas, it is very necessary to conduct scientific analyzes and, based on their results, analyzes at the state level (Regions of Azerbaijan, 2018:521-527).

## Materials and methods

The cities of Mingachevir, Yevlakh, Zardab, Sabirabad, Salyan, Shirvan and Neftchala located in the lower reaches of the Kura River in Azerbaijan, were taken as the object of the study, indicators of the demographic and socio-economic situation of these cities for 1989-2022 were collected and analyzed (Demographic indicators of Azerbaijan, 2018: 325-337; Population of Azerbaijan, 2017: 45-68; Regions of Azerbaijan, 2018:53; Statistical indicators of the regions, 2021:3-7).

The theoretical basis of the study is the methodological approaches used in scientific research by Hajizade (1965), Mekhraliyev (1988:128-131), Efendiyev (2015:93), Mamedov and Eyyubov (2016:382-387) and others working in the field of demographic research and economic geography. In the analysis of urban settling, historical, cartographic, mathematical-statistical, systematic analysis, comparison and other research methods were used.

#### **Results and discussion**

The emergence of cities and the expansion of their territory, the gradual increase in their population, the integration of rural settlements into the urban environment, the increasing role of cities in society, the formation of an urban settlement environment with its own way of life, the population of plants and animals suitable for the urban environment, the transformation of natural landscapes into cultural in conditions of ecological stress and the decline of nature comes from the content of urbanization.

The creation of cities located in the lower reaches of the Kura River, the development of urbanization and bringing to a modern state have come a long historical way. The modern structure of the economy in the regions of Azerbaijan, the creation of new settlements and the formation of a network of cities on their basis began in the 30s of the 20th century. In the process of industrialization, from this time on, along with large cities, cities located in the lower reaches of the Kura River and some industrial centers were created. The transformation of the cities of Mingachevir, Shirvan, Yevlakh and dozens of small settlements into cities created conditions for the creation and development of industrial areas in the regions and the concentration of the population in these settlements. These centers contributed to the gathering of the rural population in the cities along with the district centers, the urban population increased rapidly. The development of these cities is based on the use of natural economic, social, scientific and technical opportunities. To increase the population in these cities, it is important to organize socio-cultural services, provide jobs, and use the recreational potential (Badalov, 2018: 214-217).

The dynamics of urban development and the size of the urban population have changed significantly over the years of independence. Population growth is the result of quantitative and qualitative changes in the population under the influence of social, economic and biological processes. An analysis of the dynamics of the urban population shows that their number in cities is constantly increasing. Despite this, some cities are sparsely populated. Due to a weak economic and social base, they cannot fully support the demographic potential on the ground. For a long time, the rural population in Azerbaijan was the main source of population growth in the country. The population rapidly increased due to the predominance of a large rural population and the high demand for labor for agricultural work (Eminov, 2005:137).

An analysis of the research data shows that as a result of the high natural increase that took place in the 60-70s of the twentieth century, conditions were created both for the rapid growth of the share of the urban population and for the formation of urbanization centers with an advantageous geographical position. For example, cities located in the lower reaches of the Kur River are formed on the basis of demographic, geopolitical and natural potential.

The main goal in urban planning is the adaptation of people to the urban environment by taking into account its geographical features. Of great importance is the improvement of the lifestyle of the population, which is a geographical feature of urbanization, the use of an appropriate economic and geographical position in intra-city passenger traffic, and free behavior in natural conditions. Effective, purposeful use of natural conditions, especially land plots, when placing residential apartments, public buildings, industrial enterprises and consumer services in urban planning projects, in the development of cities, gives the environment sustainability, beauty and a unique look. The development of the cities of Mingachevir and Shirvan, located in the lower reaches of the Kura River, is associated with the creation in the post-war period of hydro and thermal power plants, the oil industry and, on their basis, industries of national importance.

The cities located below the Kura River, which are part of the Aran economic and geographical region, have developed industrial regions. The main part of the industrial potential is concentrated in the cities of Shirvan, Salyan and Neftchala, located in the east, and Mingachevir and Yevlakh in the northwest. Oil and gas extraction, electric power industry, chemistry, production of building materials are developed and specialized industries in this region. Oil and gas are produced around the city of Shirvan, in the Salyan and Neftchala regions. State District Power Station operates in the cities of Mingachevir and Shirvan, and a Hydroelectric Power Station operates in Mingachevir. Mingachevir is an important energy base of the country. This economic region provides 60% of the electricity produced in the country (Efendiyev and Demirgayayev, 1995:93-97).

Chemical industry enterprises operate in the cities of Mingachevir, Salyan and Neftchala. There is a plastics plant in Salyan, and an iodine-bromine plant in Neftchala. The primary processing of cotton grown in the economic region is carried out at ginneries. This area provides the bulk of light industry products. In addition, there are enterprises for the production of cotton fabrics (Mingachevir), primary processing of wool (Yevlakh), carpet weaving (Hajigabul). However, serious problems arose in their activities. Therefore, the role of light industry is still low, it is important to restore its former role. Although the food industry has a sufficient raw material base, they are little used, and the network of processing industries is weak. There are many opportunities for creating enterprises in the field of fruit and vegetable and fish canning, processing of meat, milk and other livestock products. Agriculture in the studied areas is based only on irrigation. Cotton growing, dry subtropical fruit growing, and horticulture are specialized branches of agriculture. Cereals, grapes, potatoes, sugar beets, sunflowers, fodder crops are also planted (Efendiyev and Gasimova, 2013: 116-121). There are enough natural opportunities for the development of animal husbandry, with the help of which cattle and sheep are kept.

The Mingachevir agglomeration includes Mingachevir, the city of Yevlakh, the village of Khaldan along the left and right banks of the Kur River. The Mingachevir agglomeration, covering an area of 1370 km<sup>2</sup>, is home to 106 000 people, with 761 people per 1 km<sup>2</sup> (Table 1).

| No  | Names of cities | Area, thous. | Poj   | pulation, th | ousand peo | ople  | Population density in   | Growth during |
|-----|-----------------|--------------|-------|--------------|------------|-------|-------------------------|---------------|
| INO |                 | sq.km        | 1989  | 1999         | 2009       | 2022  | 2022 (1 sq. km, people) | 1989-2022,%   |
| 1   | Mingashevir     | 0,14         | 82,3  | 94,0         | 96,3       | 106,6 | 761                     | 129,5         |
| 2   | Yevlakh         | 1,47         | 92,1  | 108,2        | 117,8      | 131,0 | 89                      | 142,24        |
| 3   | Zardab          | 0,86         | 39.0  | 46,1         | 52,9       | 60,0  | 70                      | 153,84        |
| 4   | Sabirabad       | 1,47         | 110,1 | 139,9        | 151,7      | 181,8 | 124                     | 165,12        |
| 5   | Shirvan         | 0,07         | 59,8  | 65,5         | 77,1       | 88,2  | 1260                    | 147,49        |
| 6   | Neftchala       | 1,45         | 60,1  | 71,5         | 79,5       | 89,6  | 62                      | 149,08        |
| 7   | Salyan          | 1,60         | 93,2  | 112,0        | 121,9      | 141,6 | 89                      | 151,93        |

 Table 1 – Change in demographic indicators of cities in the lower reaches of the Kura River, for the period 1989-2022 (Population of Azerbaijan, 2017; Demographic indicators of Azerbaijan, 2018)

According to the statistics of 2022, the population of the city of Mingachevir was 100.6 thousand people, which is 1% of the country's population. Compared with the all-Union census of 1989, the population of Mingachevir increased by 21 thousand people. The average population density of the city of Mingachevir is 719 people per 1 km<sup>2</sup>, which is 7 times higher than the average population density in the republic (104 people per 1 km<sup>2</sup>). Although Mingachevir, Shirvan, Yevlakh and other cities of the region play a progressive role in the

development of the country's economy, their role in the development of urbanization was weak. For this reason, during 1999-2017. this region lagged behind the national level (Eminov 2005). During 2004-2013 the balance of migration in these cities as a whole is negative.

Dynamics of population growth in cities located in the lower reaches of the Kura River, for the period 1989-2022 presented on the graph (Figure) (Population of Azerbaijan, 2017; Demographic indicators of Azerbaijan, 2018).

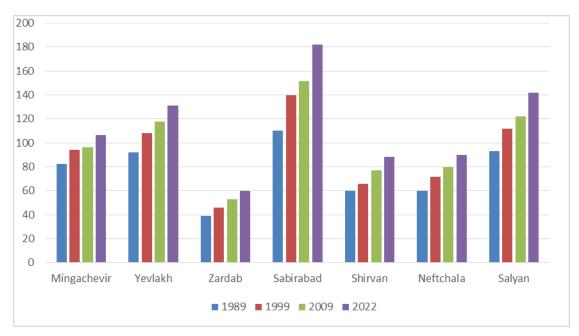


Figure – Dynamics of population growth in cities located in the lower reaches of the Kur River, for the period 1989-2022

As can be seen from the diagram, there is a gradual increase in the number and density of the population of the studied cities. Over the past 13 years, the largest natural increase occurred in the cities of Sabirabad and Salyan, and over 33 years, the largest population growth occurred in the cities of Sabirabad (165.12%) and Zardab (153.84%). It should be noted that since the number of industrial enterprises in these cities is small, the population is mainly engaged in agriculture.

The main goal of the state policy in the field of demography is to ensure the quantitative and qualitative growth of the population in accordance with the long-term development strategy of the country by eliminating negative trends in demographic processes (Badalov, 2017:34-39). One of the most important factors influencing the growth and decline of the country's population and changes in its structure is the health of people and their mortality (Badalov, 2019:41-48). The process of population reproduction is characterized by the excess of the number of births over the number of deaths by 2.5-3 times. The dynamics of the population determines its difference in natural growth, fertility and mortality.

The table below shows the change in 6-year (2015-2021) demographic indicators of cities located below the Kura River. It can be noted that as a result of the research, we see a decrease in the natural growth of cities located in the lower reaches of the Kura River in the period 2015-2021. So, in 2021, a sharp decline in natural population growth is observed in the cities of Mingachevir (-8.5%) and Neftchala (-7.3%), this is significantly lower than the national average (12.8% per 1,000 people).

The 2019 global pandemic also affected the population growth dynamics of cities in the lower reaches of the Kura River. During the Covid-19 pandemic, a significant economic effect was expressed in the morbidity and mortality of people (especially the working-age population), a decrease in the birth rate and, as a result, natural population growth, speed, life expectancy and other demographic parameters (Efendiyev and Demirgayayev, 1995:118).

The pandemic has had an extremely negative impact on the region's economy, including a decline in population. Statistical indicators that the number of deaths in 2019-2020 higher than in 2015 are reflected in the Table 2. If the natural increase in the city of Mingachevir in 2015 was 992 people, then in 2021 this figure was 126 people. We see that not only in the city of Mingachevir, but also in all cities located below the Kura River, the natural increase in 2021 is low. One of the most important factors influencing natural population growth is marriages and divorce rates. As can be seen from Table 2, except for the city of Salyan, in all other 6 cities, a decrease in marriage rate and an increase in the number of divorces were recorded. If we look at the number of children who died before the age of 1, we can see that the number of child deaths has increased in Mingachevir, the main industrial city among the cities below the Kura River.

As you know, improving the socio-economic indicators of the regions leads to an improvement in the demographic situation. In this regard, the table reflecting the employment rates of the population of the cities of the lower reaches of the Kura River is of great importance. As can be seen from Table 3, over the past 7 years, the work carried out to improve the employment situation of the population living in these cities is not satisfactory, since the number of new jobs opened in all cities has sharply decreased. The worst situation is in the cities of Yevlakh and Sabirabad, the situation is relatively satisfactory in the cities of Shirvan and Mingachevir. The process of industrialization is most noticeable in the cities of Mingachevir, Shirvan and Yevlakh (Table 3).

The number of operating industrial enterprises in the city of Mingachevir in 2015 was 45, and in 2021 this figure decreased to 36. If we consider income from industrial products, the total value of production in 2015 was 266,653.8 manats (156,855.18 USD), and in 2021 – 359 348.8 manats (211,381.65 USD). In the field of agriculture for 6 years of 2015, the area of grain and leguminous plantations decreased by 72 hectares, the area of vineyards and melon crops increased. The economically active population in 2015 amounted to 57.7 thousand people, and in 2021 it increased to 61.2 thousand people. If in 2015 the number of new jobs in Mingachevir was 996, then in 2021 it decreased to 283.

There is an increase in the number of operating industrial enterprises in the city of Yevlakh (+9). In the field of agriculture in the territory of the city of Yevlakh, 10,190 hectares of grain and leguminous crops were sown in 2015, in 2021 - 12,131 hectares, an increase in sown areas is observed (table 4). The development of cotton growing influenced the growth dynamics in the Yevlakh region, in 2015 958 hectares of cotton were sown, and in 2021 this figure was 2328 hectares, which affected the employment of the population. The number of employed people in 2015 amounted to 60.6 thousand people, in 2021 – 64.6 thousand people.

| Cities   |       | Mingachevir | Zardab | lab  | Yevlakh | kh    | Sabirabad | abad  | Shirvan | van  | Salyan | an    | Neftchala | hala |
|--|-------|-------------|--------|------|---------|-------|-----------|-------|---------|------|--------|-------|-----------|------|
| Population   | 2015  | 2021        | 2015   | 2021 | 2015    | 2021  | 2015      | 2021  | 2015    | 2021 | 2015   | 2021  | 2015      | 2021 |
| Population (thousand people)   | 102,4 | 106,6       | 57,1   | 60,0 | 125,7   | 131,0 | 170,3     | 181,8 | 84,0    | 88,2 | 133,5  | 141,6 | 85,5      | 89,6 |
| Natural growth people  | 992   | 126         | 608    | 308  | 1116    | 407   | 2809      | 1501  | 980     | 190  | 1848   | 789   | 932       | 323  |
| Fertility  | 1586  | 1066        | 954    | 689  | 1929    | 1564  | 3762      | 2625  | 1501    | 865  | 2613   | 1786  | 1427      | 984  |
| Mortality  | 594   | 940         | 346    | 381  | 813     | 1157  | 953       | 1124  | 521     | 675  | 765    | 266   | 495       | 661  |
| The number of children<br>who died before the age of<br>1 year. people | 17    | 21          | 10     | 8    | 18      | 12    | 37        | 14    | 16      | 7    | 31     | 15    | 12        | 8    |
| Number of marriages  | 809   | 560         | 370    | 351  | 769     | 626   | 1341      | 1025  | 620     | 505  | 134    | 201   | 673       | 484  |
| Number of divorces   | 229   | 247         | 45     | 78   | 146     | 243   | 97        | 197   | 124     | 182  | 1061   | 898   | 86        | 144  |
| In % per thousand population   |       |             |        |      |         |       |           |       |         |      |        |       |           |      |
| Natural increase   | 9,7   | 1,2         | 10,7   | 5,1  | 8,9     | 3,2   | 16,7      | 8,3   | 11,8    | 2,1  | 13,9   | 5,5   | 10,9      | 3,6  |
| Fertility  | 15,5  | 10,0        | 16,8   | 11,5 | 15,4    | 12,0  | 22,3      | 14,5  | 18,0    | 9,8  | 19,7   | 12,6  | 16,7      | 11,0 |
| Mortality  | 5,8   | 8,8         | 6,1    | 6,4  | 6,5     | 8,8   | 5,6       | 6,2   | 6,2     | 7,7  | 5,8    | 7,1   | 5,8       | 7,4  |
| For every 1000 population  |       |             |        |      |         |       |           |       |         |      |        |       |           |      |
| Marriages  | 7,9   | 5,3         | 6,5    | 5,9  | 6,1     | 4,8   | 7,9       | 5,7   | 7,4     | 5,7  | 8,0    | 6,4   | 7,9       | 5,4  |
| Divorces   | 2,2   | 2,3         | 0,8    | 1,3  | 1,2     | 1,9   | 0,6       | 1,1   | 1,5     | 2,1  | 1,0    | 1,4   | 1,0       | 1,6  |

Table 2 – Demographic indicators of cities in the lower reaches of the Kura River (Statistical indicators of the regions, 2021)

E.V. Nagiyev

| No | Cities      | Number of new | y opened jobs |      | strial enterprises<br>ating |
|----|-------------|---------------|---------------|------|-----------------------------|
|    |             | 2015          | 2022          | 2015 | 2022                        |
| 1  | Mingachevir | 996           | 283           | 45   | 36                          |
| 2  | Yevlakh     | 1110          | 70            | 15   | 24                          |
| 3  | Zardab      | 435           | 31            | 5    | 7                           |
| 4  | Sabirabad   | 1133          | 29            | 10   | 16                          |
| 5  | Salyan      | 579           | 69            | 27   | 21                          |
| 6  | Shirvan     | 1115          | 437           | 37   | 30                          |
| 7  | Neftchala   | 1179          | 201           | 15   | 16                          |

 Table 3 – Employment rates of the population of the cities of the lower reaches of the Kura River (Statistical indicators of the regions, 2021)

According to the number of industrial enterprises operating in the city of Zardab (7), it can be said that the population of this city is mainly employed in agricultural fields. In 2015, 153 hectares of cotton were sown in the nearby areas of the city of Zardab, and in 2021 this figure was 3,070 hectares. The number of employed people increased from 27.5 thousand people in 2015 to 29.3 thousand people in 2021. The number of new jobs opened was 435 in 2015 and decreased to 31 in 2021.

The number of industrial enterprises operating in the city of Sabirabad increased slightly by 6 units and became 16 in 2021. In 2015, in the field of agriculture, we see that agricultural activity in the surrounding areas of the city of Sabirabad is predominant, and the areas of arable land and perennial crops are expanding. The number of people employed in the labor market in 2015 amounted to 76.5 thousand people, in 2021 - 82.2 thousand people. The number of new open jobs was 1133 in 2015, and in 2021 this result has dropped sharply to 29.

We see that the number of industrial enterprises operating in the city of Salyan has decreased by 6 units. It is noted that cotton fields among agricultural crops have expanded dramatically (from 406 hectares to 6134 hectares), the number of new jobs was 579 in 2015, but in 2021 this figure decreased to 69. The number of people employed in the labor market in 2015 was 62,000 people, and in 2021 – 66,300 people, it is clear that this population is employed in agriculture. The number of new jobs was 27 in 2015 and 21 in 2021.

In 2015, the number of industrial enterprises operating in the city of Shirvan was 37, and in 2021 it decreased to 30. In general, it can be seen that the city of Shirvan differs from other cities located in the lower reaches of the Kura River in that its population works more in industrial enterprises than in agriculture, livestock breeding is also developed here. If in 2015 the number of new jobs was 115, then in 2021 this figure was 437. The number of people employed in the labor market in 2015 amounted to 42.2 thousand people, in 2021 - 44.4 thousand people.

In 2015, 15 enterprises operated in the city of Neftchala, and in 6 years only 1 new enterprise was opened. The population of this city works mainly in agricultural sectors, the cotton growing industry is developing, the area of which increased from 221 ha to 6949 ha. In 2015, 42,000 people worked in the labor market, in 2021 - 44,600 people. If in 2015 the number of new jobs was 1179, then in 2021 it dropped sharply to 201. At the same time, we note that Mingachevir and Shirvan are the most urbanized cities among the cities of the lower reaches of the Kura River.

| Agricultural<br>indicators20152021agricultural plants20152021agricultural plants553arable land, ha12553Cereals and legumes12553including winter and<br>spring wheat9553including winter and<br>spring wheat9553Cotton-100Sugar beet76Sugar beet1916Potato-20Potato-7Veoretables78107 |   |        |       |        | Laruan | Sabir  | Sabirabad | Salyan | van    | Shirvan | van    | 1171LT | Nettonala |
|--|---|--------|-------|--------|--------|--------|-----------|--------|--------|---------|--------|--------|-----------|
| 95<br>95<br>7<br>19<br>19<br>-   |   | 2015   | 2021  | 2015   | 2021   | 2015   | 2021      | 2015   | 2021   | 2015    | 2021   | 2015   | 2021      |
| 125<br>95<br>-<br>19<br>19<br>-  |   |        |       |        |        |        |           |        |        |         |        |        |           |
| 125<br>95<br>-<br>7<br>19<br>-<br>-  |   |        |       |        |        |        |           |        |        |         |        |        |           |
| 95<br>-<br>7<br>19<br>-<br>-   |   | 10190  | 12131 | 16884  | 19427  | 23528  | 26081     | 20111  | 17173  | 1       | 1      | 43778  | 40491     |
| - 7<br>19<br>7<br>87   |   | 4469   | 6680  | 10365  | 13007  | 11907  | 14860     | 5692   | 5708   |         |        | 4620   | 5980      |
| 7<br>19<br>78  |   | 958    | 2328  | 153    | 3070   | 1633   | 9260      | 406    | 6134   |         |        | 221    | 6949      |
| 78   |   |        |       | I      | I      | ı      | ı         | I      | ı      |         |        | ı      | ı         |
| - 78   |   | 295    | 489   | I      | 1      | 10     | 15        | I      | 12     |         |        | 114    | 147       |
| 78   | 2 | 232    | 134   | 116    | 210    | 1327   | 1393      | 421    | 411    | 5       | 5      | 122    | 142       |
| 2  |   | 530    | 503   | 152    | 205    | 3295   | 3438      | 1304   | 1501   | 09      | 61     | 140    | 85        |
| melon plants 125 53  |   | 276    | 188   | 229    | 209    | 4146   | 3974      | 1120   | 932    | 1       | 3      | 588    | 602       |
| Gardens and 95 -   |   | 780    | 966   | 471    | 496    | 1631   | 2192      | 715    | 832    | 21      | 33     | 7      | 134       |
| Vineyards - 100  |   | 330    | 223   |        |        | 1      | 80        | 1187   | 1126   | 20      | 22     | 43778  | 40491     |
| Number of animals,<br>birds and bee<br>colonies:   |   |        |       |        |        |        |           |        |        |         |        |        |           |
| Number of cattle, 2504 2314 heads  |   | 68310  | 2314  | 54428  | 54862  | 116932 | 123263    | 62820  | 62751  | 2820    | 2565   | 42428  | 43528     |
| Livestock of cows 1404 1109 and buffaloes, heads   |   | 27834  | 1109  | 22828  | 22919  | 58199  | 61874     | 33351  | 33331  | 1340    | 984    | 21062  | 22452     |
| Sheep and goats, 4708 4440 head  |   | 181710 | 4440  | 112971 | 114818 | 211414 | 233040    | 186567 | 185993 | 15635   | 8750   | 132983 | 148662    |
| birds, head 8397 7552  |   | 395430 | 7552  | 188782 | 195526 | 848992 | 1481417   | 659927 | 677733 | 175510  | 345203 | 910620 | 697249    |
| Bee colonies, pieces 122 160   |   |        | 160   | 633    | 2147   | 100    | 2039      | ı      | 1456   | ı       | ı      | ı      | 66        |

Table 4 – Development indicators of agriculture in the downstream areas of the Kura River (Statistical indicators of the regions, 2021)

### Conclusion

The dynamics of the demographic situation of the 7 most populated cities (Mingachevir, Yevlakh, Zardab, Sabirabad, Salyan, Shirvan, Neftchala) located in the lower reaches of the Kura River has been studied. The database for analysis was taken from the 1989-2021 census data and statistical demographic indicators by years.

It was determined that, compared with previous years, there was an increase in the area, population and density of administrative-territorial units of cities located in the lower reaches of the Kura River. The most natural increase was observed in the cities of Sabirabad (165.12%) and Zardab (153.84%). The fact that the natural increase in the population of these cities is higher than in other cities can be explained

by the fact that they are mainly engaged in various branches of agriculture (grain growing, horticulture, viticulture, cotton growing). Thus, a relatively low natural increase is observed in cities, the population of which is mainly employed in industrial sectors. (for example, Mingachevir (129.52%).

We believe that in order to regulate the problems of demographic development in the cities in the lower reaches of the Kura River, it is necessary to carry out continuous measures in the areas of employment, social protection, medicine and other areas, open new industrial parks in the cities of Mingachevir and Shirvan, expand urban areas in accordance with the new urban infrastructure, create new industrial areas in Yevlakh, Zardab, Sabirabad, Salyan, Neftchala, develop tourism, agriculture, country farms, processing industry.

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