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## Demographic Problems in the Northern Regions of the Republic of Kazakhstan

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### ABSTRACT

This article aims to analyse demographic and migration processes in Kazakhstan, focusing on identifying their impact on society's economic, political and social aspects. The work methodology is based on comparisons and system-structural methods, such as control, generalization, systematization, logical analysis, and synthesis. The study used two main groups of indicators for 1990-2021. The first group included comparative indicators, such as the relative size of the population structure, the intensity and relative proportions of the structure, and the proportions of the urban and rural population. The second group included migration indicators, such as the number of arrivals to the settlement, the number of departures from the settlement, and absolute migration growth or balance. The study results reveal regional differences, especially in the context of migration processes. There is a negative balance of internal migration and high rates of population decline in the northern regions. In comparison, the southern regions are experiencing population growth, which poses new economic and social challenges. It is predicted that by 2050, the population of the south of regions will increase significantly. The authors emphasize the importance of an integrated approach to solving demographic problems, including improving well-being, providing affordable health care and developing effective demographic policies. In conclusion, it is noted that successfully overcoming demographic challenges requires balanced economic and social measures.

**KEYWORDS:** Demography, Migration, Social Situation, Population Census, Regional Problems, Urbanization, Labor Resources, Reproductive Behavior

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# Демографические проблемы в северных регионах Республики Казахстан

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## АННОТАЦИЯ

Данное исследование направлено на анализ демографических и миграционных процессов в Казахстане, с акцентом на идентификацию их влияния на экономические, политические и социальные аспекты общества. Методология исследования была разработана на основе использования системно-структурных подходов, таких как обобщение, систематизация, логический анализ и синтез. В исследовании использовались две основные группы индикаторов за период 1990-2021 годы. Первая группа анализируемых показателей охватывала переменные, отражающие структуру населения, включая её размер, интенсивность изменений и относительные пропорции, а также доли городского и сельского населения в общей численности. Вторая группа фокусировалась на миграционных индикаторах, которые включали число лиц, прибывших в населённый пункт, число лиц, покинувших населённый пункт, а также общий миграционный прирост или баланс, отражающий динамику перемещения населения. Результаты исследования выявили региональные различия, особенно в контексте миграционных процессов. Отмечается отрицательный баланс внутренней миграции и высокие темпы сокращения населения в северных регионах, в то время как южные регионы испытывают рост населения, что порождает новые экономические и социальные вызовы. Прогнозируется, что к 2050 году население южных регионов значительно увеличится. Авторы подчеркивают важность интегрированного подхода к решению демографических проблем, включая улучшение благосостояния, предоставление доступного здравоохранения и разработку эффективной демографической политики. В заключение делается вывод о том, что для эффективного решения демографических задач требуются меры, охватывающие, как экономические, так и социальные сферы.

**КЛЮЧЕВЫЕ СЛОВА:** демография, миграция, социальная ситуация, перепись населения, региональные проблемы, урбанизация, трудовые ресурсы, репродуктивное поведение

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### Introduction

Demographic and migration processes are considered the basis, a powerful engine of public policy, and, at the same time, the main factor in economic, political, and social positive or negative changes in society. Ensuring a stable demographic situation is one of the main priorities of the country's security and development. Also, a scientifically based analysis and study of demographic patterns and trends is influential in strategically forecasting the country's development. INSEAD Business School annually publishes the Global Talent Competitiveness Index (GTCI), which assesses the opportunities of different countries and cities around the world to attract valuable workers. In 2019, according to the results of the rating, Switzerland, Singapore, and the United States were among the first. Kazakhstan's position in comparison with 2017 was worse. The Republic of Kazakhstan fell from 53rd to 56th place out of 125 countries.

Kazakhstan, located in the center of Eurasia, is a dynamically developing country whose society and economy are experiencing significant impacts from demographic changes and migration flows. These processes play a critical role in forming the country's labor resources and the population structure and affect social stability. Demographic changes, including population growth, aging, changes in sex ratio, and ethnic structure, directly impact Kazakhstan's economic development. They determine the labor supply, form the demand for educational and medical services, and influence the housing market and infrastructure development. Migration processes, on the one hand, contribute to the influx of labor and improve the demographic situation, and on the other hand, generate challenges in the field of migrant integration, social security, and human rights. These processes require careful analysis and the development of adequate government policies.

It should be noted that the issues of demography and population reproduction in a broad sense also include migration issues, that is, a process that changes the size and structure of the population. Therefore, in Demographic Studies, in the direction of determining the methods of population reproduction, the patterns of natural movement of the population should also be the main focus. Despite the large-scale measures taken by the state, the country's migration policy still requires effective regulation. Unfortunately, some progress in population growth indicators, given the results of external and internal migration processes

and increasing, still has a negative impact on the demographic situation in the country and individual regions.

The analysis of migration and demographic processes is important for planning regional development and sustainable use of resources. It allows you to identify regions with high growth potential and those that need support due to demographic challenges. Thus, the study of demographic and migration processes in Kazakhstan has a complex relevance, allowing addressing issues of economic growth, social stability and sustainable development. The article aims to substantiate new approaches and develop specific proposals using scientifically based methods for a deeper analysis and improvement of Kazakhstan's current state of demographic problems.

### Literature review

Demographic aspects such as age and gender structure in different industries significantly impact migration trends. Young working groups can increase interest in finding work opportunities and improving living conditions. Demography refers to the analysis of the population's number, geographical location, and structure, as well as changes in these parameters and the main factors that cause these changes, including the composition of the population and changes in it. There are two types of demography: formal demography and Population Research. Official demography deals with birth rates, mortality, age structure, and spatial distribution of the human population. Population research focuses on population composition and changes in sociological, economic, biological, or anthropological approaches (Ehrlich, 2008; Gil-Alonso & Thiers-Quintana, 2019). This determines the importance of issues such as the impact of the population and its consumption habits on the standard and quality of life, as well as the relationship with the aging of the population.

Thiede et al. (2016) pointed out that demographic dynamics and economic transformation are closely related in rural areas. It is especially noted that reducing jobs in agriculture, extractive industries, and manufacturing leads to decreased population growth and chronic migration of young adults from many rural areas. Such a constant outflow of young people directly impacts the population's decline and the median age's development. Young emigrants carry their children and their reproductive potential with them, which further exacerbates the negative impact of their

care on the population and its age structure in the long term. Tarasyev & Jabbar (2018) highlighted economic, social, political, and environmental factors among the causes of international labor migration. The main driving forces of Migration showed their connection with the need for labor resources, the level of wages, social conditions, and the socio-political situation.

Internal migration is associated with the search for work and the desire for a good education and other opportunities. In addition, internal migration has become an integral part of life, especially for the rural population, not only from an economic point of view but also from an educational point of view (Wang et al., 2021). In other words, the permanent migration of young adults is a cumulative process of decline. In general, this leads to a decrease in the population and a violation of the age structure, which is characterized by significant population aging. In some cases, the population is aging so much that it can cause a natural decline in the population; that is, the death rate exceeds the birth rate. The constant outflow of young adults is one of the main factors affecting the demographic situation in rural areas (Coulter, 2023). This effect involves the population and its structure and leads to a change in the public and economic landscape (Herrero-Jáuregui & Concepción, 2023).

Kislitsyna and Palkina (2019) noted that the outflow of the population, especially in depressed regions, is due to a complex of factors, including economic difficulties associated with low incomes, high taxes, and poverty in general. Migration has a direct impact on the rural population, determining trends in growth or decline. An important aspect of structural changes is the age composition of the local population. The abandonment of rural areas by young and able-bodied groups in search of better employment and educational opportunities can lead to the aging of the rural population and demographic imbalance (Gietel-Basten & Scherbov, 2019).

Karra et al. (2017) analyse the impact of a decrease in the overall birth rate on per capita income. In comparison with previous works, they consider the effects of birth on savings, the feedback between education and birth, the impact of birth on health, and the impact on the development of the economy. The study showed that a decrease in the total fertility rate for a woman per child leads to a doubling per capita income. The authors also emphasize the importance of endogenous mechanisms such as education and Health, which significantly impact final results. Maestas et al.

(2023) note that the aging of the population puts pressure on economic development, including labor supply and social systems.

A decrease in coefficient leads to an increase in gross income, an increase in the share of workers in the modern sector, and an improvement in the capital of the contemporary industry per employee. The endogenous effects of education and health have existed for a long time, leading to rapid growth and consistently high per capita income in the current sector (Karra et al., 2017; Sizova & Orlova, 2021; Kelly et al., 2023).

The concept of «seat birth rate» (RRF) with a coefficient of 2.1, which reflects the birth rate necessary to replace generations and maintain a stable population level, is also considered. This ratio was a target or standard because it was expected to ensure the stability of the population. But even though 2.1 is widespread as a standard, there are significant deviations in fertility patterns by country and region. For example, in some regions, the birth rate may be higher or lower despite the general trend towards an average of 2.1. These differences may be due to differences in cultural, social, economic, and demographic factors. Thus, speaking about the unevenness of the dynamics of births around the world, it is essential to consider the differences between countries when analyzing demographic indicators. This is due to the diversity of attitudes towards family and reproductive practices and the different socio-cultural.

Hu (2013) examined the impact of population aging on pension systems, especially in the Chinese context, and identified significant changes in the structure and functionality of families. The presence of work highlights the fundamental role of the family in supporting the elderly. It discusses issues related to the reduction in household size, the increase in households with the elderly, and the challenges facing the aging population in the face of a decrease in the number of children. Also, non-traditional family types were revealed, for example, only elderly families and families with grandparents. The presence of work indicates a change in the number of families, an increase in households with the elderly, and difficulties associated with the care of an aging population in the face of a decrease in the number of children. The authors note that internal migration flows in China depend on several factors, including demographic characteristics, population density, and the importance of population in different regions.



Guo et al. (2018) take a closer look at the dynamics of birth rates in different regions of China and shows a significant convergence of rural and urban birth rates. This trend represents significant changes in birth patterns and may indicate a convergence process in demographic patterns. The authors pay special attention to the role of internal migration, particularly the impact on the birth rate of the «floating population». Due to its unique dynamics, internal migration significantly impacts the country's demographic picture. Migrants are more likely to be active parents and have a lower birth rate than those who have not emigrated. Thus, internal migration is critical in shaping China's demographic picture.

Population density is an essential factor affecting the attractiveness of the region. Regions with a high population density can pressure resources and infrastructure, encourage migration to sparsely populated areas, and vice versa (Alamantila et al., 2023). The population in specific regions also forms internal migration trends. Large cities and economically developed regions will attract migrants with employment opportunities and rich socio-cultural resources.

### Methodology

In today's socio-economic situation, the problems mentioned above of migration and demography are especially relevant for the development of labor resources in the modern economy, which has their characteristics and, therefore, is under the close attention of the state, as well as scientists, production workers, and managers. The risks of managing these processes raise many new questions, the complex methods and solutions of which force them to be used as a mechanism for solving modern problems in the field of migration and demography. To improve the problems of migration and demography in Kazakhstan, a number of scientifically based methods were used in the research process, which serve as a tool aimed at a deeper analysis and understanding of the essence of the considered situations, therefore, the topic of the project is related to the justification of new views and the development of specific proposals.

The article used system-structural and functional approaches. In order to achieve the set goals, the comparison method, along with the analysis methods, is the main one. General system-structural methods include methods of control, generalization, systematization, logical analysis, and synthesis. The comparative method

compares two or more objects, classifying and highlighting what is familiar and different in them for the purpose of typology. According to the comparative method, indicators for the regions of North Kazakhstan by year were studied. This method occupies a prominent place in the vision of the result, as it shows the result of migration (mechanical) movement of the population – in the Republic of Kazakhstan, as well as in the interior of the Republic of Kazakhstan – in determining the change in the number of residents caused by permanent departure, arrival, that is, under the influence of migration.

In the process of preparing materials for the article, the content of scientific methods and their application in the study of this issue were studied. Methods of reviewing the literature on demography and migration issues, as well as analysis of the annual reporting of regional management bodies and statistical data, were used to form the study's actual results. An analysis of the data of the Bureau of National Statistics of the Agency of the Republic of Kazakhstan for Strategic Planning and Reforms was carried out. In addition, the works and research of demographer scientists published in the public domain on the object under study were examined in detail.

The method of reviewing scientific literature based on the analysis of a large information flow reveals the essence of using various theories and methods for assessing the demographic situation. Accordingly, the information material used in the article is taken from official statistical sources on the demographic State and scientific periodicals, including from near and far abroad.

To characterize the current demographic situation and make a situational forecast, North Kazakhstan, Kostanay, and Pavlodar regions were considered. According to the specific demographic situation that has developed in these regions, the areas are grouped according to the levels of formation of the state of demographic development for the future and the rate of demographic growth.

Statistical and mathematical methods were used for the economic indicators and grouping system. By the technique of accurate statistics, data for the last 1990-2021 years are analyzed and used to obtain several options based on applied orientations for grouping according to the demographic situation of Regions.

To characterize the demographic situation of the regions, comparative indicators for each region were determined, in particular, the indicators of the relative volume of structure, intensity, harmony,

the specific weight of the urban and rural population, birth, mortality, natural growth, continuous growth, and the overall demographic load on the able-bodied population.

To determine the absolute indicators of migration, the number of arrivals at a residential point, the number of departures from a residential point, the migration (mechanical) absolute increase or migration balance were used, that is, this method gives a characteristic of the accuracy of the object of study.

The general demographic burden on the working-age population in North Kazakhstan region is one of the lowest in the country after Astana and Kostanay region. Also, the northern regions of Kazakhstan have a low birth rate and a high mortality rate. The path of demographic development differs from the other areas. The total population depends on migration processes. The internal migration balance in the regions under consideration is negative.

### Results and discussion

Kazakhstan ranks 63rd in the world in terms of population and third among the CIS countries after the Russian Federation and Uzbekistan. The average population density at the beginning of 2022 is 7.2 people per km<sup>2</sup> (183rd in the list of countries in terms of population density).

According to the results of the third national census conducted as of September 1, 2021, the population permanently residing in the Republic of Kazakhstan was 19,186,015.

During the census period, the population of the Republic increased by 3,176,418. Compared to the previous census in 2009, the population growth was 19.8%. The share of the urban population is 61.2%, and the share of the rural population is 38.8%. In 2009, their ratio was 56.1% and 43.9%, respectively (Information of the National Bureau of Statistics, 2023).

Rational placement of the population contributes to the effective functioning of the economy, eliminates regional contradictions, and eliminates internal socio-economic tension. Any modern state ensures the prevention of excessive concentration of the population and economy in some regions and desolation in others (Bodaukhan et al., 2022).

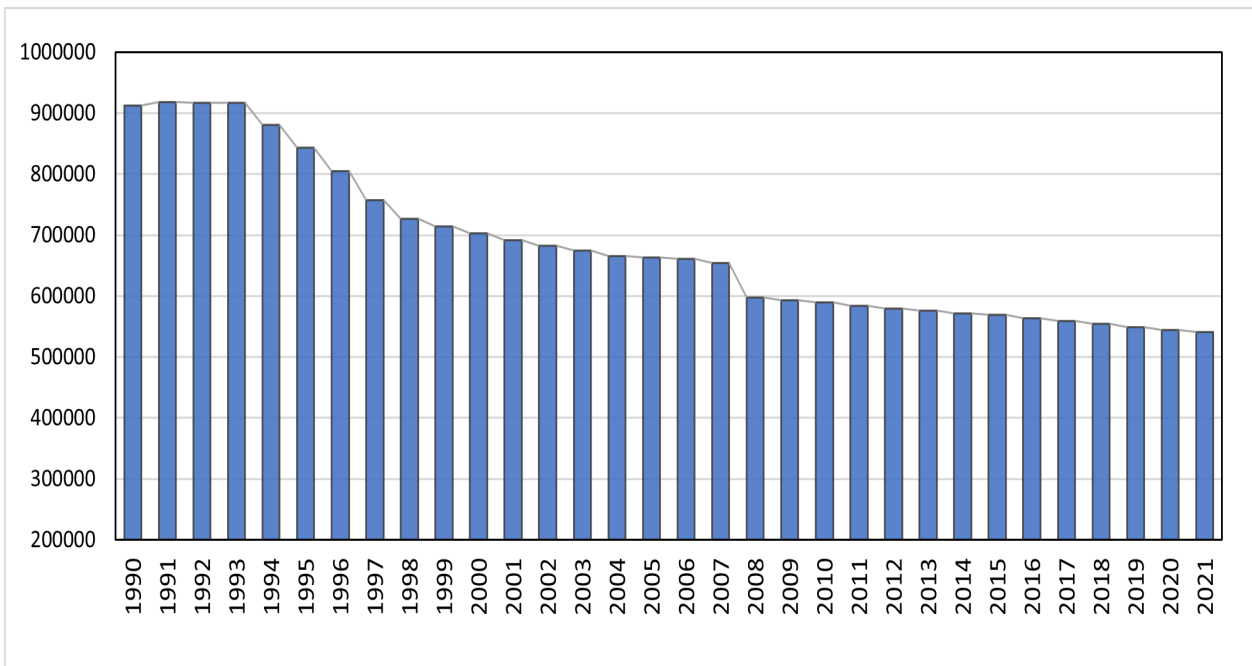
Today, an inhomogeneous demographic situation has developed in the regions of Kazakhstan. According to the Ministry of Labor, 38% of the population lives in the country's

southern regions, and their share in the gross regional product is 17%. In the northern regions, 29% of the population produces 25% of the gross regional product. According to experts' forecasts, by 2050, the population of the southern regions will reach 5.2 million people. The population will increase by a person, and the density of settlement in them will be four times higher than in similar indicators of the northern regions (Bureau of National Statistics, 2022).

Considering the demographic situation of the regions, it can be seen that the population is steadily declining in five regions of Kazakhstan at once: Kostanay, Pavlodar, North Kazakhstan region and East Kazakhstan region. It is known that in each region of the country there is a natural population growth, that is, even though the birth rate exceeds the death rate, these regions are experiencing a period of demographic decline due to migration flows. In recent years, the attention of scientists and politicians to historical and demographic issues has increased in Kazakhstan. Such interest is primarily due to the need to understand the country's and region's demographic situation and determine the prospects for demographic development. Demographic studies conducted during the years of independence have focused on the quantitative statistical aspects of demography, external and internal migration. In addition, during the years of independence Kazakhstan are characterized by trends towards a decrease in the total birth rate, followed by growth trends and the establishment of stability of this indicator (Aldangarkyzy et al., 2023).

Taking into account the regions that have shown a negative demographic balance in recent years despite the increase in the total population. 2.8% of the population of the Republic lives on the territory of the region. In North Kazakhstan region, the minimum specific weight of children under 16 was formed – 21.6% and the maximum particular weight of the population aged 63 and over – 16.2%. For 30 years in the North Kazakhstan region, the total population declined by 41% (see Figure 1).

According to Figure 1, since independence in 1991, this region has had a negative migration balance. During the inter-census period, the region's population decreased by 55.7 thousand people or 9.3%. The number of men was 260,944 or 48.3%, and the number of women was 279,842 or 51.7%. There are 932.5 males per 1000 females.



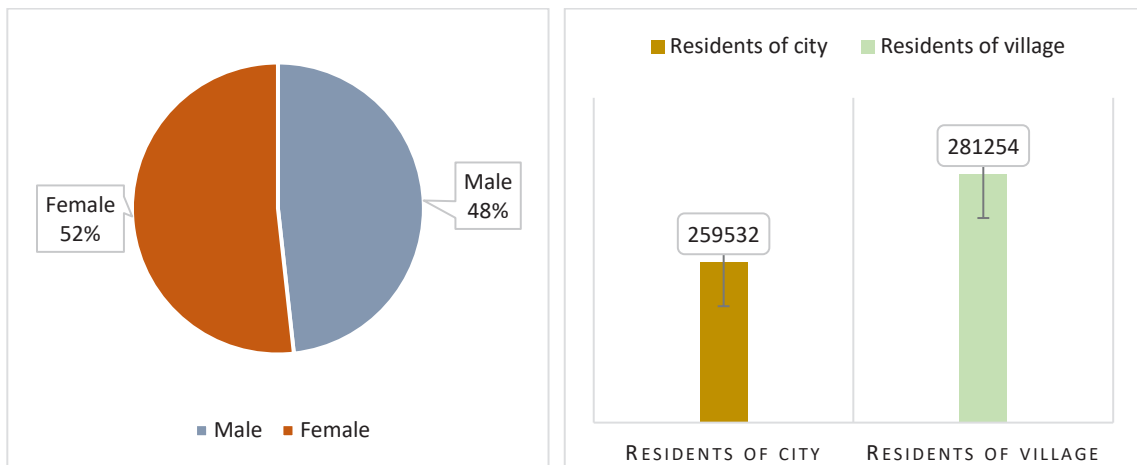
**Figure 1** - Dynamics of the population of the North Kazakhstan region in 1990-2021

Note: compiled by authors based on Bureau of National Statistics (2022)

The population of the city is 259532 people or 48%, and the population of the village is 281254 people or 52%. The level of urbanization increased by 8.2% compared to 2009. In North Kazakhstan region, the minimum share of children under the age of 16 was formed – at 21.6%, and the maximum

share of the population aged 63 and over – was 16.2% in Kazakhstan.

Thus, the number and composition of the population of the North Kazakhstan region is presented in Figure 2.



**Figure 2** – Number and composition of the population of the North Kazakhstan region

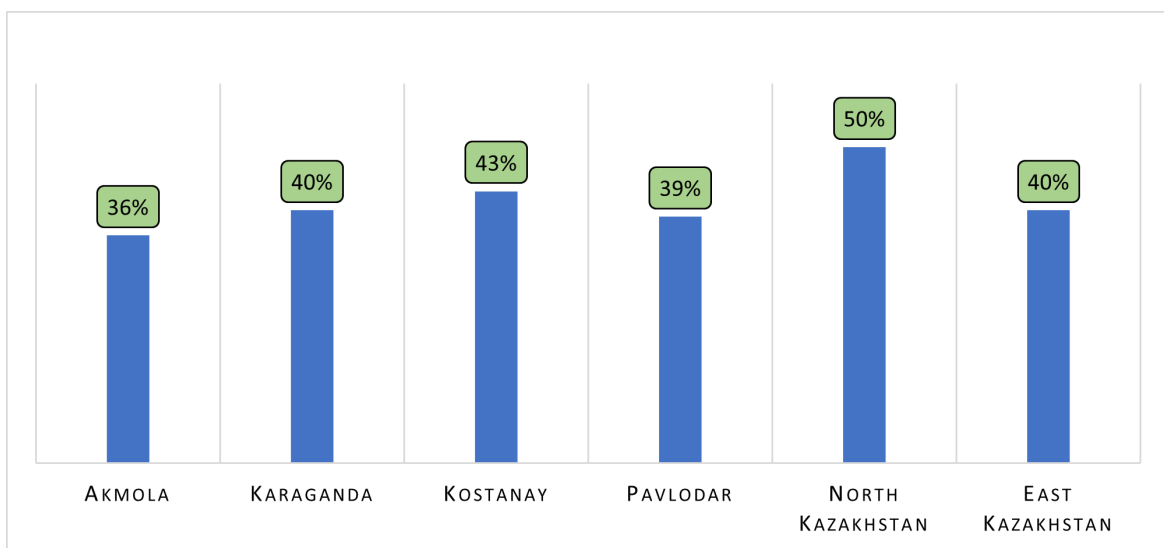
Note: compiled by authors based on Bureau of National Statistics (2022)

The demographic load of the population under working age amounted to 356.44 people per 1000 working age, 294.79 people over working age, 651.23 people under working age and older. The general demographic burden on the working-age population in North Kazakhstan region is one of the lowest in the country after Astana and Kostanay region. And the workload of the population over working age, on the contrary, is the highest among other areas. The highest population decline was observed in the period from 1992 to 2001; during this period, 190.4 thousand people were written off from the region.

Today, Kazakhstan has a sharp ethno-demographic difference between the regions. The population of the southern and western regions consists almost entirely of Kazakhs; the northern regions have the same number of Kazakhs and Russians. Ethnic Russians of North and central Kazakhstan make up 36% in Akmola region, 40% in Karaganda region, 43% in Kostanay region, 39% in Pavlodar region, 50% in North Kazakhstan region, and 40% in East Kazakhstan region. «Even one of the reasons for moving the capital from Almaty to Astana was the desire to settle ethnic

inequalities because, in several northern regions, the number of Russians exceeded the number of Kazakhs,» says Kazakh political scientist Talgat Mamyraimov (Demographic policy: Orientation and forecasts, 2023). In January – July 2022, compared to the corresponding period in 2021, the number of arrivals in the region (excluding regional migration) increased by 4.2%, and the number of departures - by 8.3%. In other words, North Kazakhstan remains the territory with the lowest demographic situation in country, despite the state’s significant measures.

The ethno-demographic landscape of Kazakhstan presents a complex picture, characterized by sharp regional disparities in ethnic composition. The southern and western regions are predominantly Kazakh, while the northern regions exhibit a more balanced mix of Kazakhs and Russians, with ethnic Russians comprising a significant portion of the population in several northern and central regions. This demographic disparity has significant implications for the country’s social, economic, and political dynamics. Furthermore, the share of ethnic Russians in North and Central Kazakhstan is described in Figure 3.



**Figure 3** – Share of ethnic Russians of North and Central Kazakhstan in 2021, %

Note: compiled by authors based on Bureau of National Statistics (2022)

In Kostanay region, the total population decline over the years of independence was 30.8%. The general demographic burden on the able-bodied population in Kostanay region is one of the lowest in the country.

During the inter-census period, the region’s population decreased by 51.9 thousand people or

5.9%. The number of men was 402,275 or 48.3%, and women 431,368 or 51.7%. There are 932.6 males per 1000 females. The city’s population is 510586 people or 61.2%, the population of the village is 323057 people or 38.8%. The level of urbanization increased by 11.6% compared to 2009.



The total birth rate in Kostanay region has significantly decreased since 1992 (16.8 per 1000 people) and reached its lowest level in 2000 (10.9 per 1000 people). There is an increase in this indicator after a significant decrease from 2008 to 2015. The overall birth rate (TCC) decreased every year in the following years.

Astana city partly aimed to address these ethnic inequalities by fostering greater integration and reducing regional disparities. Such demographic challenges are not unique to Kazakhstan but re-

flect broader trends in post-Soviet states, where historical migration patterns and policy decisions have left lasting impacts on regional ethnic compositions. The dynamics of the population in the Kostanay region from 1990 to 2021 offer a microcosm of these broader trends. During this period, the region, like many others in Northern Kazakhstan, experienced significant demographic shifts. Dynamics of the population of Kostanay region in 1990-2021 (see Figure 4).

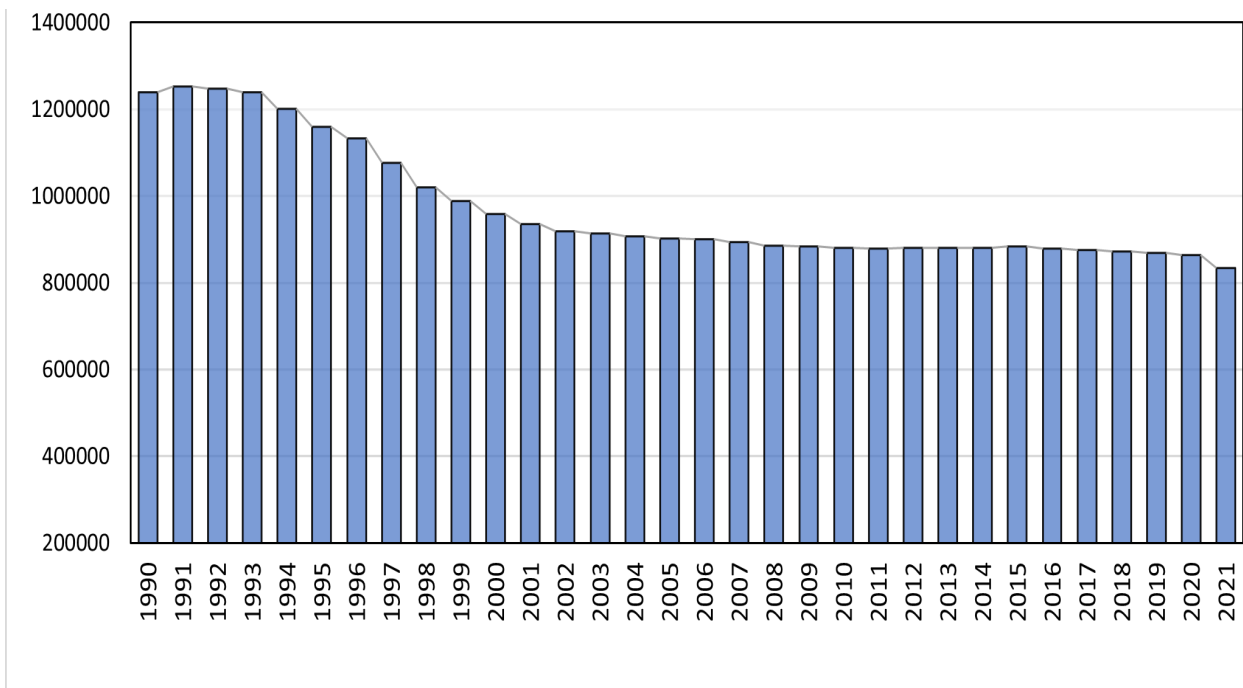


Figure 4 – Dynamics of the population of Kostanay region in 1990-2021

Note: compiled by authors based on Bureau of National Statistics (2022)

Since independence, there has been a negative migration balance in Kostanay region. The highest migration balance of the population was observed from 1994 to 2002. In January-July 2022, compared to January-July 2021, the number of arrivals from outside the region decreased by 6.1%, and the number of departures to other states increased by 1.7%.

The total population decline in Pavlodar region over the years of independence amounted to 26.3%. Since independence, there has been a

negative migration balance in Pavlodar region. The highest population decline was observed from 1992 to 2002, for ten years the negative migration balance was 184 thousand people (Figure 5).

The total birth rate in Pavlodar region has decreased significantly since 1992 (16.1 per 1000 people), reaching its lowest level in 1998 (10.8 per 1000 people). After a significant decrease since 2000, there is an increase in this indicator. The total birth rate in 2021 was 15.6 per 1,000 people. This is below the national level.

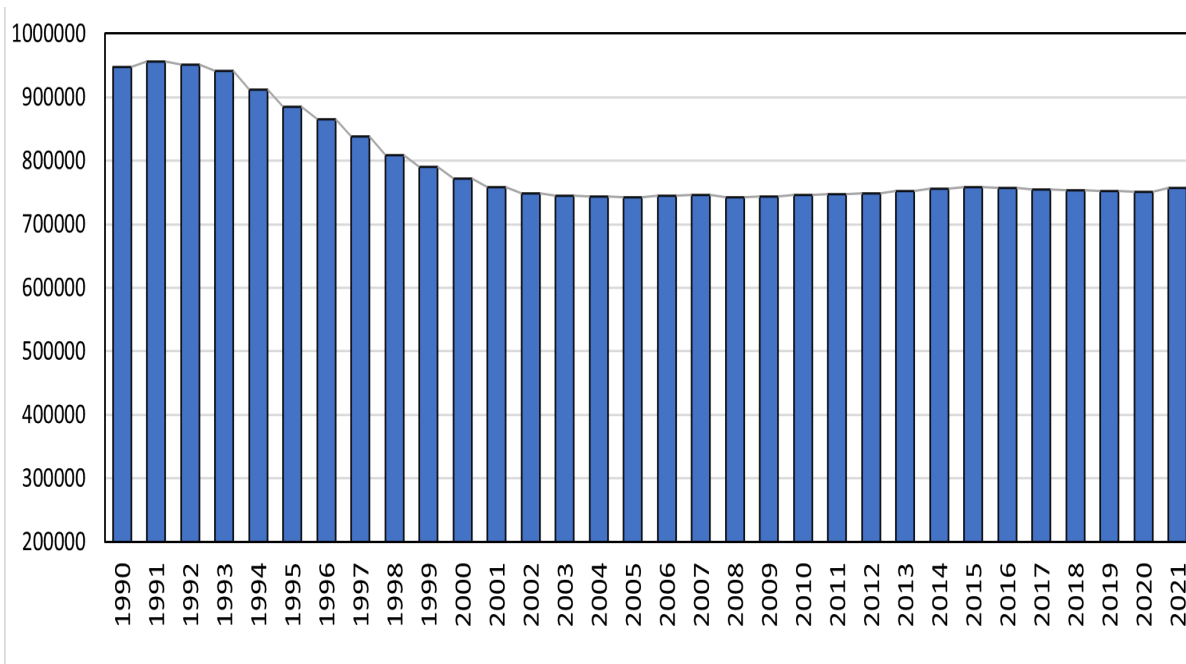


Figure 5 – Dynamics of the population of Pavlodar region in 1990-2021

Note: compiled by authors based on Bureau of National Statistics (2022)

The basis for the state's prosperity is a rationally developed demographic policy. However, in many countries, the irregular work in this direction seriously undermines development. Currently, the Government of the Republic is working on the concept of demographic policy adopted in 2011. And now, this document has expired and has become legally binding. However, the new program document has not yet been developed, and the country does not have a legal regulatory act regulating demographic policy. As a result, many socio-economic problems arose. In general, we have vectors of economic development that do not take into account ethnic and demographic processes and the socio-cultural needs of the population. Under the influence of this, disagreements have led to various negative situations in the areas of health, education, socio-economic, and national security.

There is not a single state body that evaluates the policy and development of the population. In the first years of the Republic of Kazakhstan's development, the population policy's strategic goal was to achieve numerical superiority of a part of the Kazakh state, and now other new missions are being led. It's time for demographic policy to focus on the qualitative goals and process of transforming human potential into social capital.

It is necessary to effectively use the «demographic dividend» of rapid population growth.

Implementing national and regional development programs» from the population to the economy» will be effective only if they are based on the charter. It is challenging to build economic development goals without relying firmly on the demographic realities of today and tomorrow. The demographic system of Kazakhstan, which has been developing over the past decade, is facing new challenges. Already in the country, two opposite demographic scenarios are being implemented – North-East and South-West, each of which determines a complex of socio-economic and socio-political risks and threats. Although these scenarios are regional, they affect the entire country to some extent. Also, all this contributes to ensuring not only demographic security but also the national security of Kazakhstan as a whole.

Even today, two opposite demographic scenarios are being implemented in the country: north-east and south-west, each determining a complex of socio-economic and socio-political risks and threats. These scenarios are regional in nature but, in some cases, affect the entire country. All this impacts not only demographic security but also the national security of the whole of Kazakhstan. Grouping the demographic growth

rates of regions in Kazakhstan involves analyzing data across various dimensions such as natural increase, migration, and changes in the ethnic

composition over time. For the purpose of this analysis, grouping of demographic growth rates of regions of Kazakhstan presented in Table 1.

**Table 1** - Grouping of demographic growth rates of regions of Kazakhstan

Level	Region	Percentage indicator
Those belonging to the relative security zone	Pavlodar	1,3
	Karaganda	2,7
	Aktobe	16,5
	Zhambyl	10,7
	Turkestan	9,1
	West Kazakhstan	9,8
	Almaty region	14,1
«Red zone» with low population growth	Pavlodar	- 0,4
	North Kazakhstan	-8,2
	Kostanay	-1,25
	East Kazakhstan	-0,7
«Yellow zone» with average population growth rate	Kyzylorda	1,3
	Atyrau	-0,2
regions and cities with high population growth rates	Astana	87,7
	Shymkent	68,8
	Mangystau region	44,8
	Almaty city	40,7

With very high population growth rates, especially in densely populated territories and megacities, many economic and social problems need to be solved quickly. In addition, the regions where the population growth rate in this red zone shows negative indicators include the northern and eastern regions. In Akmola region, the population decline is 0.30%, in Kostanay and East Kazakhstan regions - 2.0%. The highest rate of population decline is observed in the North Kazakhstan region (-8.2%).

The number and well-being of the Republic of Kazakhstan's population affect the country's demographics. According to the National Bureau of Statistics, the population in the country has now reached 19,741,283 people. Of these, 12,188,601 are urban, and 7,552,682 are rural. The number of women is 10,106,665, and the number of men is 9,634,618. The population growth rate in the country is growing from 1% to 16% (Russians in Kazakhstan: population, immigration and emigration, 2023).

The study of the demographic situation of the population in the northern regions of the

Republic continues in 2022 through the Ministry of Education and Science of the Republic of Kazakhstan, which is tasked with financing science projects on a competitive basis. In the course of the study, the main focus was:

First, the analysis and assessment of natural and environmental factors that make up the complex characteristics of socio-economic systems based on the main demographic structures, mutual effects, and interdependencies.

Secondly, the assessment of many socio-economic factors that stimulate the trend of urbanization, including those related to the standard of living in individual regions, the interaction of the economic development of the region, and the demographic and migration dynamics of the population.

Thirdly, analysis of political and ethnic factors provoking the process of migration and resettlement to other states and identification of the impact of deepening demographic imbalances in the region;

Fourthly, analysis of the gender and age structure of the population and the study of its

relationship with general and regional demographic processes;

Fifthly, analysis of cultural, social, psychological, and historical factors affecting the reproduction of the population (marriage, divorce, birth). A medium-term forecast of the demographic situation in the northern regions will be developed based on modern modeling methods.

In the context of the current demographic situation, the activities of state authorities, public self-government bodies, and citizens aimed at preventing demographic and migration crises and improving the quality of human capital should be based on a political view that every citizen of the Republic of Kazakhstan is considered as the principal value of state policy and an object of national security.

In this regard, the development and strengthening of the institution of the family should become the priority task of the state demographic policy and be based on the moral strengthening of the family and the education of spirituality in marriage. Many residents of the northern regions continue to watch Russian television, and due to frequent contact with residents of the Russian Federation, they are closer to residents of a neighboring country, which also affects the birth rate. Most likely, they expect from the Kazakh authorities, as in Russia, measures to support the second and third child, that is, to pay significant maternity capital, regardless of the woman's labor income (Akhmaganbetov, 2020).

In Kazakhstan, a significant increase in the one-time allowance for the birth of a child will begin only with the fourth child, and benefits for pregnancy and child care up to one year will depend on the size of the mother's salary. In this way, the birth of her second child in a row is not encouraged at all, and the state, not to mention baby food or baby clothes, the child care allowance is given in the minimum amount that is also lacking to receive the baby diaper used daily.

For comparison, childcare benefits are paid for up to 3 years in Uzbekistan. At the same time, it is necessary to consider the endless queues for Kazakhstani kindergartens.

Conclusions arise that our authorities do not stimulate this process but only hope for the independent desire of Kazakhstani families to have children. After all, the birth of a child occurs not only for a day or two in the maternity hospital but also the need to improve the housing and material situation of the family.

Thus, it would be logical to introduce much larger unconditional payments for childcare,

at least in the North and the whole country. In addition, according to the example of the Russian Federation, it is possible to consider the possibility of providing a plot of 10 acres to families in which a third child was born. The child allowance in the North can be increased several times from the second child. For example, in Russia, maternity capital for the second child (Asylbekov & Kozina, 1995) is about 12 thousand dollars, which can be used for mortgages, education, and other needs. In Kazakhstan, assigning a similar payment for the second and third child on the same conditions is possible.

### Conclusion

Summing up, we see that in recent years, the northern regions of the Republic of Kazakhstan have faced serious demographic problems with unfavorable consequences for the socio-economic development of the regions. One of the main problems is an increase in the aging population and a decrease in the number of able-bodied residents. This leads to reduced labor productivity and increases the need for social services, including medical care. In addition, the northern regions of Kazakhstan have a low birth rate and a high mortality rate. Such conditions not only affect the demographic structure but also impede the northern regions' capacity to attract and retain young, skilled workers who are crucial for economic development and innovation.

The demographic challenges faced by the northern regions of the Republic of Kazakhstan are multifaceted, impacting the socio-economic fabric of these areas in profound ways. The situation is exacerbated by a low birth rate and a high mortality rate, further destabilizing the demographic balance and economic vitality of these regions. One of the solutions to the problem can be to increase the well-being of the population of the northern regions of Kazakhstan to create a favorable environment for family education. Providing affordable and high-quality medical care and improving demographic policy are also necessary.

Thus, demographic problems in the northern regions of Kazakhstan require an integrated approach that combines economic and social measures that help fight the decline in births, an increase in mortality, and the aging of the population.

Based on the analysis of mortality and birth rates, trends in increasing population growth in Kazakhstan and its regions were identified. In addition, different demographic phenomena in the country and its regions were identified:

(1) An analysis of the impact of ethnic groups and ethnodemographic processes on settlement in the regions and the demographic situation of the regions was carried out; indicators of birth, mortality, natural growth of the urban and rural population and their impact on plans for demographic development in the future were determined;

(2) Based on the comprehensive analysis carried out, an assessment of the demographic situation in the regions is made by preparing a chart map;

(3) It reflects the characteristics of internal migration flows in Kazakhstan, their potential, structure, direction, causes and characteristics;

(4) The role of individual cities in the development of large cities of Kazakhstan has changed, the role of large cities in former urban areas has disappeared, the emergence of new leading cities has been shown, and the urban system of Kazakhstan is developing according to the applied model;

(5) Based on the interdisciplinary method, urbanization factors classified by Fault are determined: urbanization factors (demography., geography. and geopolitics., economy., social., technology., ecology., geopolitical., global);

(6) Based on the coefficient of urbanization growth rates, three categories of areas with high and medium levels of urbanization were distinguished, as well as regions with characteristic desurbanization, trends in the growth of the urban population, which occur due to the development of births and migration, the orientation of migration flows to the country's megacities, were identified;

(7) A comparative analysis of the political and legal framework for regulating demographic processes in Kazakhstan and abroad was carried out, and the basics were identified: social.- the formation of internal factors of economic influence, as well as external. Migration flows are identified, indicators with legal and political migration factors, and the target parameters of state programs that affect the systematized and compared demographic natural process are determined.

#### AUTHOR CONTRIBUTIONS

Conceptualization and theory: KB and NS; research design: KB, NS, AS and MB; data collection: NS, AS and ZK; analysis and interpretation: KB, NS, AS, MB and ZK; writing draft preparation: AS, MB and

ZK; supervision: KB and NS; correction of article: KB, NS, AS, MB and ZK; proofread and final approval of article: KB, NS, AS and MB. All authors have read and agreed to the published version of the manuscript.

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