

# **REPUBLIC OF AZERBAIJAN**

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## **ABSTRACT**

of the dissertation for the degree of Doctor of Philosophy

### **DEMOGRAPHIC AND SETTLEMENT PROBLEMS IN THE NORTHERN BORDER REGIONS OF AZERBAIJAN**

Specialty: 5401.01 – Economic geography

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## GENERAL CHARACTERISTICS OF THE WORK

**Relevance and degree of development of the topic.** Border regions have always been of strategic importance for the state, as they are perceived as a potential place of military intervention or a zone of economic and cultural integration of countries. Changes in world politics usually affect the geopolitical position of the country and its relations with neighboring states. Unfortunately, border regions have always been hostages of big politics. Thus, the direction of their development, in most cases, has depended on the mutual relations between states. In this regard, the study of the demographic and settlement problems of border regions is of great importance.

The political processes taking place in the world, the expansion of the sphere of influence of globalization in the economy, and the increase in interest in demographic processes taking place in countries have made it necessary to conduct this scientific research. The northern border regions of Azerbaijan, which are the research region, are of strategic importance as they are located on the border with the Republic of Georgia and the Russian Federation, on important transit routes. The region also differs from other regions of our republic in terms of its national and ethnic characteristics, geographical location, and natural conditions, which further increases the relevance of the topic.

The length of the borders of the northern regions we studied with the Russian Federation is 370 km. Of this, 252 km fall on the Sheki-Zagatala economic region, 15,4 km on the Khachmaz, and 102,6 km on the Gusar administrative region. 40 km of the border with the Russian Federation runs over the Samur River, and 330 km on mountainous, forested, and plain areas. The border of the northern border regions with the Russian Federation, which runs through difficult-to-defend areas, is of great strategic and military importance for our country. Since the border with Russia runs in some places along high mountain ranges, land connections are possible only with the Khachmaz and Gusar administrative regions. The border of the Republic of Georgia with the northern regions of Azerbaijan is 235.6 km (the length of the borders was calculated using the ArcGIS method).

Border regions are regions located along the borderline of a

particular country. These regions have different characteristics due to their geographical location, and economic, cultural, and strategic importance. The northern border regions of Azerbaijan, where we conducted our research, are of great importance due to both their historical and strategic position. In total, the length of the land border of the Republic of Azerbaijan is 2647 km, and the length of the water border is 816 km.

When studying the dynamics of the development of borderland development and settlement systems, we turned to the scientific works of many local and foreign specialists - Sh.Y. Goychayli, Sh.M. Muradov, V.A. Efendiyev, and S.Q. Naghiyev, N.H. Ayyubov, Z.N. Eminov, Z.T. Imrani, Y.V. Savelyeva, O.V. Tolstoguzova, O.A. Zotova, T.A. Terechenko, X.O. Gonzalez, N.Bassols, C. Fernandez, N.M. Hansen and others.

Although there are many research works covering the northern economic regions of Azerbaijan, these areas have not been studied as border regions so far. This increases the relevance of the topic and makes the completion of the dissertation work necessary.

**The object and subject** of the research are the study of settlement and demographic problems in the northern border regions covering eight administrative districts. Is the study of the and demographic problems of the northern border regions. The area of the northern border regions is 11400 sq. km, the population is 915,3 thousand people. Of these, 265,8 thousand people (29%) are urban, and 649,5 thousand people (71%) are rural (as of 01.01.2022). The region covers the administrative regions of Balakan, Gakh, Sheki, Zagatala, Gabala, Oghuz, Gusar and Khachmaz. The administrative regions, which constitute 13,2% of the territory of the republic and 9% of its population, are important strategic territories in terms of economic and political geographical position. The population density is 80 people per km<sup>2</sup>.

**Goals and objectives of the research.** The main goal of the research is to study the demographic and settlement characteristics of the population in the northern border regions of Azerbaijan, to identify the problems existing in this area, and to determine ways to solve them. For this, the following tasks have been set:

- To study the geostrategic importance of the appropriation and

settlement of border areas, and to examine the level of study of this problem in the world;

- to study the natural growth, structure, migration, labor resources and ways of using them, and to determine the characteristics of demographic development;

- to study the settlement of the population in the northern border regions by altitude zones, rural and urban settlements, and to identify ways of effectively organizing settlement;

- to identify ways to improve demographic development and the standard of living of the population.

**Research methods.** Comparative analysis, field research, observation, statistical, cartographic, historical-geographical approach, etc. research methods were used in writing the dissertation. The compiled maps were prepared in ArcGIS software.

**Main provisions presented for defense.** As a result of the scientific research work conducted, the following provisions are presented for defense:

- Determining the geostrategic importance of the settlement of border regions;

- Research on the main trends and regional characteristics of demographic development in the northern border regions;

- Assessment of the current state of urban and rural settlement and the changes taking place;

- Identified priority areas for regulating demographic development and population settlement.

**The scientific novelty of the research.** The following scientific innovations can be noted in the dissertation work:

- The Republic of Azerbaijan has 32 administrative regions with direct borders with neighboring states. For the first time, 8 administrative regions located in the north of our republic and the demographic processes taking place there have been studied as border regions;

- The demographic development and population settlement trends in the northern border regions were examined from an economic and geographical perspective and grouped according to the study areas of the border areas;

- The geostrategic importance of the northern border regions

bordering the Russian Federation and the Republic of Georgia, the importance of population settlement in terms of the country's territorial integrity and military-political situation has been scientifically investigated;

-The natural population growth, changes in the national-ethnic composition and gender-age structure, migration processes, and their consequences in the northern border regions were investigated. A sharp decrease in the population number in the high mountainous areas of the northern border regions, distinguished by their strategic position, was determined. At the same time, for the first time, the population migration intensity and migration coefficient for each administrative district in the northern border regions were calculated.

**Theoretical and practical significance of the research.** The recommendations and proposals given in the dissertation are important for determining the strategic importance of population settlement in the northern border regions and for eliminating existing problems in the field of demographic development. The results of the conducted analyses can be used in the preparation of State programs for socio-economic development in the regions, and in educational work on the study of the population in the regions.

**Approval and implementation.** The main provisions of the research conducted during the preparation of the dissertation were discussed at the following international and republican scientific forums and conferences: International Scientific-Practical Conference on “Assessment and Efficient Use of Natural Resource Potential of Geosystems in Conditions of Global Variability” dedicated to the 90th anniversary of the birth of the national leader H.A. Aliyev (Baku, 2013), International Scientific-Practical Conference on “Geographical Problems of Tourism, Regional Studies and Ecology” (Almaty, 2014), Republican Scientific Conference on “Geography: Theory, Practice and Innovation” (Baku, 2015), Republican Scientific Conference organized by the State Committee for Land Management and ANAS on “Land Management in a Market Economy: Achievements and Modern Challenges” (Baku, 2018), International (Azerbaijan-Russia) Scientific Conference of Public Geographers on “Human Geography in Azerbaijan and Russia: Main Paths of Development in the 21st Century” (Baku-

2019), "Karabakh and East Zangezur Scientific-practical conference on "Organization and management of natural economic systems in economic regions " (Baku, 2022), International scientific-practical conference on "Modern problems of geography: integration of science and education" (Baku, 2022), V International scientific-practical conference on "Geographical aspects of sustainable development of regions" (Gomel, 2023 May 25-26), International scientific-practical conference on "Impact of modern climate change on natural complexes and economic systems in Azerbaijan" (Baku, 2024)

18 scientific articles and conference materials related to the content of the research work have been published.

**Name of the organization where the dissertation work was completed.** The dissertation was completed in the "Demography and Population Geography" Department of the Institute of Geography named after Academician H.A. Aliyev of the Ministry of Science and Education.

**The total volume of the dissertation, with the volume of the structural sections of the dissertation indicated separately.** The dissertation consists of an introduction (5 pages), 4 chapters (Chapter I (14 pages), Chapter II (49 pages), Chapter III (34 pages), Chapter IV (31 pages)), conclusion (4 pages), It consists of a list of 106 references - 11 pages, 29 tables, 10 maps, 10 graphs, 2 formulas, and 11 figures. Dissertation work 150 It is the size of a computer page and consists of 181014 characters without images, tables, graphs, or bibliography.

## **MAIN CONTENT OF THE RESEARCH**

**The introductory part** discusses the relevance of the topic, the level of study, goals, and objectives, the object and subject of the research, theoretical and methodological foundations, information base, scientific innovations, and practical significance.

The first chapter explores **"The Geostrategic Significance of Border Area Appropriation and Settlement"**. In contemporary discourse, examining the geostrategic implications of population dynamics, particularly in border zones, has gained substantial relevance.

Typically, border areas are defined as the segments of territory or maritime zones that directly adjoin a nation's border, serving as critical focal points for regional analysis. A challenge in studying these regions lies in delineating the precise extent of research within the broader national context, as the implications of settlement and appropriation can vary significantly based on geopolitical factors and national interests. For example, when studying border areas of the Russian Federation, a distance of 5 km inland from the state border is considered, and in the Republic of Kazakhstan - 25 km. In this regard, when studying border areas, the administrative-territorial unit is taken as the basis<sup>1</sup>. However, when determining the status of the settlement scheme in border areas within the administrative-territorial unit, one of the main provisions is the preparation of regional target programs in terms of the development of settlements and territorial organization to achieve geopolitical, geostrategic, and geoeconomic advantages. Because these areas have always been of strategic importance for the state. The state border of Azerbaijan is determined by the decisions of the Milli Majlis of the Republic of Azerbaijan. The unregistered borders of our Republic with the bordering states are determined by an interstate agreement. To ensure the necessary order on the state border of the Republic of Azerbaijan, the relevant executive authority determines the border zone. It determines the boundaries of the border zone in the territory of the relevant border regions, depending on local conditions. A strip up 1 km wide is directly defined along the state border line of the Republic of Azerbaijan.<sup>2</sup>

The location of the northern border regions of Azerbaijan on the border with the Russian Federation and the Republic of Georgia gives them great geopolitical importance. The region is also important in terms of foreign economic relations. Since the early 1990s, the issue of delimitation of borders between the Russian Federation, the Republic of Azerbaijan, and the Republic of Dagestan, and the equal division of water resources of the Samur River has been raised. The raising of this issue was met with protest by Azerbaijan. The reason for this was the shortage of drinking water in the cities of Baku and Sumgayit, as well as

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<sup>1</sup> Artemenko S.V. Cross-border regions: scientific foundations of geographical research. Brest: Br.SU, 2012. 145 p.

<sup>2</sup> Low №13 of December 9, 1991 on State Border of the Republic of Azerbaijan



the economic losses that may arise due to the lack of water in irrigated lands in coastal areas. On the contrary, Azerbaijan intended to increase the use of water resources of the Samur River. For this reason, work on the reconstruction of the Samur-Absheron canal began in 2008. On August 28, 2010, an agreement was signed between the Republic of Azerbaijan and the Russian Federation on the delimitation of borders, as well as on the rational use of water of the Samur River and the protection of water resources. According to this agreement, the border between these two states was moved from the right bank of the Samur River to the middle of the water network. With this, the delimitation process is complete.

The demarcation of the borders with the Republic of Georgia is not yet complete. Only 59% of the borders have been agreed upon.

In order to implement the most important priority measures in border regions, first of all, complex research studies based on scientific foundations should be conducted, and strategic state programs should be developed and implemented on their basis.

When developing strategic state programs, the following measures must be taken into account:

- identifying ways to develop settlement systems in border areas with relatively favorable conditions;

- Studying the potential for socio-economic development of settlements in border areas (availability of social infrastructure, employment of the population, provision of jobs, etc.);

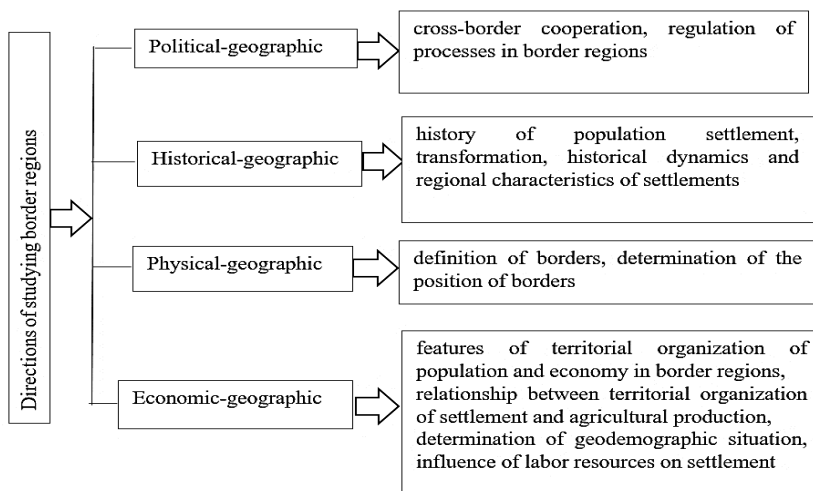
- Preparation of a system of measures for the formation of transport and communication infrastructure based on highways and railways passing through border settlements and the development of existing ones;

- The natural conditions of the border areas (mainly climate resources and relief features) and tourism and recreation resources should be studied to identify the important potential for the creation of recreation centers;

- It is important to study the ecological situation in border areas and take measures to improve the environment (ecosystem protection, forest restoration, household waste management, etc.).

Border regions are studied in several directions. These can be seen

more clearly in Figure 1.



**Figure 1. Study directions of border regions**

(The diagram was drawn up by the author)

The first chapter also analyzed the theoretical and methodological foundations of the study. When studying settlement systems in border areas, the type of settlements, their population density, age and gender composition, economic characteristics, and migration must be taken into account<sup>3</sup>.

When we study the appropriation of border areas, we must first analyze the settlement system. The study of the demographic development and settlement of the population in the Republic of Azerbaijan mainly began in the middle of the last century. The dissertation work of Sh.Y. Goychayli "Geography of settlement of the rural population of the Azerbaijan SSR" (1964), and the monograph of A.M. Hajizade "The population of Azerbaijan and its Settlement" (1965) were the first significant research works in this field. In the subsequent period, in separate research and dissertation works, the settlement of the rural population was

<sup>3</sup> Efendiyev, V.E., Nagiyev, S.Q. "Geography of population". Baki: University of Baki, 2006, 338 p.

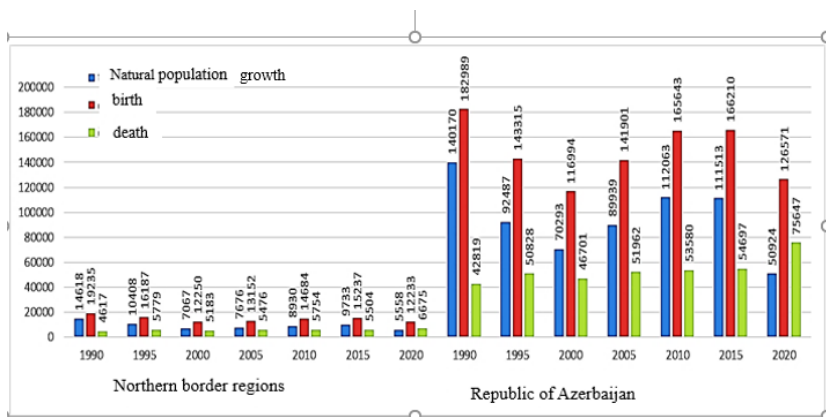
carried out concerning demographic development and separate economic and geographical regions from a regional aspect. These include the candidate dissertations of Sh.G. Demirgayayev covering the "Guba-Khachmaz" (1971), N.H. Ayyubov "Ganja-Gazakh" (1983), and M.O. Sadigov "Lankaran-Astara" (1983) regions. The formation of settlements located in border areas and ensuring their development in various directions is one of the most urgent issues of our time. Because these territories act as guarantors of not only geopolitical but also military stability.

The second chapter of the dissertation analyzes the **"Features of Demographic Development in the Northern Border Regions of Azerbaijan"**. In this chapter, we examine the population's natural and mechanical growth in these regions. The analysis is divided into five sections, focusing on the dynamics of the population as well as its sex-age and national-ethnic composition, labor resources, and their utilization.

The northern border regions of Azerbaijan, where we conducted our research, are strategic regions of our republic. In 2022, a total of 9 cities, 20 towns, and 561 villages were recorded in the region bordering the Russian Federation to the north and the Republic of Georgia to the northwest.

If we analyze the natural population growth in the northern border regions of Azerbaijan for the years 1990-2020, we will see that there has been a decrease. While the natural increase in the northern border regions in 1990 was 14618 people, in 2020 this indicator decreased significantly and was 5558 people. The decreasing trend began in 1990 and continued until 2005.

Although there was an increase later, a decrease was recorded again after 2015 (graph 1). The decrease was recorded in all regions, but the greatest decrease was observed in Sheki (2063 people), Khachmaz (1545 people), and Zagatala (1402 people).

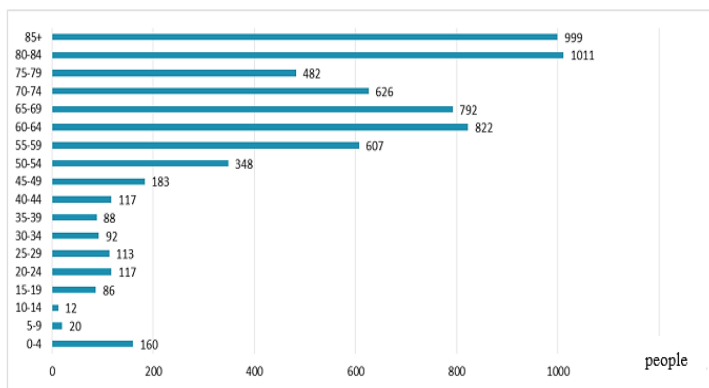


**Chart 1. Natural population growth, birth, and death rates in the northern border regions of Azerbaijan, persons**

If we look at the statistics of births and deaths in the northern border regions, we will see that compared to 1990, the number of births in 2020 decreased, while the number of deaths increased. These demographic indicators, which indicate that very serious problems may arise, indicate that the natural population growth will become even more severe in the future. As for the gender distribution of natural growth, in recent years there has been a higher number of boys among the children born. If this trend continues in the future, it may lead to undesirable consequences in the demographic composition - a lack of girls for boys to marry, changes in the national ethnic composition, etc.

In recent years, the increase in divorces in families and women giving birth to children from unofficial marriages has become a social problem. This factor in itself hurts natural growth. Divorces and children born from unofficial marriages directly affect the breakup of families and the future increase in the generation (having a second or third child in the family). In 2020, 12233 children were born in the northern border regions, of which 830 children were born to women aged 15-29 who were not officially married. This is a very high indicator. Children born from unofficial marriages accounted for 6,8% of the total births. The highest indicator by region was recorded in Balaken (158 children or 12,1% of the total births) and Khachmaz (251 children, 9,4%), and the lowest indicator was recorded in

Zagatala (72 children, 4,4%). The number of children born from unofficial marriages in rural areas is higher than in urban areas. This is because early marriages are more common in rural areas. In rural areas, early marriage of girls leads to both a violation of the law and several other problems in the future (socio-economic status of the family, education, etc.).



**Chart 2. Number of deaths by age group in the northern border regions of Azerbaijan in 2020, persons**

If we analyze the mortality rates by age group of the population, we see that the mortality rate among 0-4-year-olds is higher than that among 5-44 years old (graph 2). This is considered one of the most serious demographic problems. Such a high rate of mortality among children may lead to a decrease in the population of the northern border regions, a decrease in the population of small rural settlements, especially in mountainous areas, and a serious disruption of the age structure.

The second chapter also studied the mechanical movement of the population. Population migration plays an important role in the formation of demographic potential. During the years we studied, 1999-2019, 28995 people arrived in the region, and 72781 people left. Of the arrivals, 5466 came from other countries, and 23529 from other administrative regions of the country. The largest number of arrivals came to Sheki, and the smallest number came to the Balakan administrative region. Sheki region is also ahead in terms of the

number of departures. Thus, during the years we studied, 18176 people left the administrative region, and the migration balance was - 10485 people. The fewest departures were recorded in the Oguz administrative region, 5019 people, and the migration balance was - 357 people. During the years we studied, 28995 people arrived in the northern border regions, and 72781 people left. During these years, the migration balance in the region was -43786 people.

Migration intensity is an indicator that measures the volume and speed of population migration in a given area. The factors that affect it are mainly economic, natural, political-legal, and regional differences. Migration intensity is calculated by the following formula:

$$MI = \frac{\text{Migration number}}{\text{Total population}} \times 1000 \quad (1)$$

Here, MI – migration intensity, migration per 1000 people; Migration number – the total number of arrivals and departures during a certain period;

Total population- is the average population of an area during that period.

The migration coefficient is an indicator used to assess the intensity of migration processes in an area and their impact on population size. The formula for calculating this coefficient is as follows:

$$MC = \frac{\text{Migration balance}}{\text{Total population}} \times 1000 \quad (2)$$

Here, MC – migration coefficient, the number of migrations per 1000 people;

MB – the difference between the number of arrivals and the number of departures;

Total population – the average population of the area during the same period.

We calculated the migration intensity and coefficient in the northern border regions for 1999-2019 based on the two formulas above (1 and 2) (table 1).

**Table 1.****In the northern border regions during 1999-2019 population migration balance, migration intensity and migration coefficient**

Administrative districts	Migration balance	Migration coefficient	Migration intensity
Balaken	-6637	-73,4	106,5
Zagatala	-4198	-35,7	74,7
Gakh	-4278	-79,3	174,0
Sheki	-10485	-61,7	152,3
Oghuz	-357	-8,9	242,0
Gabala	-4693	-50,0	117,5
Gusar	-7717	-86,3	136,3
Khachmaz	-5421	-34,4	96,6
Northern border regions	-43786	-54,0	125,3

**Source:** The table was compiled based on the author's calculations based on the migration coefficient and migration intensity formula.

As can be seen from the table, the migration intensity in the northern border regions during 1999-2019 was 125,3. That is, 125,3 people were registered as migrants per thousand people. The migration coefficient was -54,0. The population per 1,000 people in the region decreased by 54 people. The migration intensity was higher in the Oghuz, Gakh, and Sheki administrative regions, while the population decrease was higher in the Gusar, Gakh, and Balakan regions. The high migration intensity and low coefficient in administrative regions are due to the closeness of the number of people entering and leaving the region.

The negative dynamics of the migration balance are associated with the low level of socio-economic development of the region, which is associated with low incomes and a lack of jobs. The working-age population with certain qualifications and education leaves the country during this period, and the migration process becomes even more difficult. This leads to a significant deterioration in the demographic situation in the region. The population has flowed both to foreign countries and large cities within the country, and the number of the younger generation has sharply decreased, mainly in villages.

One of the main reasons for migration is the sharp difference between urban and rural areas. Rural residents migrate more often to improve their living conditions and find work. This leads to a decrease in the population in some villages. For example, from 2009-2019, the population of each of the villages of Gakh Ingloi (936 people) in Gakh region, Gasbina (918 people) in Balakan region, Mahamalar (489 people) in Zagatala region, Khanoba (315 people) in Khachmaz region, etc. decreased by more than 300 people (Figure 2). Even the village of Kusnet in Gabala, which had a population of 44 people in 2009, was completely emptied as a result of population migration. Currently, no one lives in the village. Population migration from these areas directly affects the national security of the region, as well as the country. To prevent this, a national concept or strategy should be developed in the field of population migration. Because demographic security is a set of processes that ensure the geopolitical interests of the state. These processes in themselves affect the territorial integrity and national security of the country. The Republic of Azerbaijan has developed laws, regulations, and programs in this direction and is implementing them. However, it has not been able to play a supporting role in fully solving the problem in these border regions.

A section of the second chapter is also devoted to the study of the sex and age composition of the population. The age and sex structure help to assess the socio-economic significance of the administrative-territorial unit. In the northern border regions of Azerbaijan, the ratio between men and women is almost the same. If we look at the dynamics of the sex composition of the population for 1999, 2009, and 2019, we will see that while in 1999 women predominated in the northern border regions, equality was observed in the number of men and women in 2009 and 2019. If we look at the age composition of the region's population, we will see that compared to 1999, the share of 0-19-year-olds among residents in 2019 decreased by 13,2%, while the share of 45-64-year-olds increased by 12,8%. That is, the demographic composition has undergone an aging process. The main reason for this is the low natural growth rate and the migration of young people from their areas of residence.





social ties with neighboring states than other regions of the republic. The population in these areas has a more diverse ethnic and religious composition. In the northern border regions of Azerbaijan, Azerbaijanis predominate in all regions, with the exception of Gusar, accounting for 75,2%.

The second place is occupied by Lezgins with 14,8%. 66,0% of Lezgins are concentrated in Gusar and 15,0% in Khachmaz districts. In Gusar district, Lezgins make up 86,4% of the total population. The Avars are in third place with 5,5%. 52,8% of them live in Zagatala and 51,7% in Balakan districts. The Sakhurs are 1,5%, mainly settled in Zagatala (87,0%) and Gakh (13,0%) districts. The next places are occupied by Georgians with 0,9%, Turks with 0,5%, Udins with 0,4%, and representatives of other nations.

**Table 2.**

**Changes in the national-ethnic composition of the  
population in the northern border regions of Azerbaijan,  
persons (2009-2019)**

Nations	2009		2019		2009-2019 difference
	Total	%	Total	%	
Azerbaijani	584593	72,0	661645	75,2	77052
Avar	49483	6,0	48508	5,5	-975
Lezgi	132714	16,3	130185	14,8	-2529
Sakhur	12247	1,5	13308	1,5	1061
Rusian	1510	0,2	932	0,1	-578
Georgian	7552	0,9	7908	0,9	356
Udin	3774	0,5	3513	0,4	-261
Jew	178	0,02	139	0,01	-39
Turkish	5632	0,7	3997	0,5	-1635
Tat	9116	1,1	4028	0,5	-5088
Other nations	6286	0,8	5787	0,6	-499
Total	813085	100	879950	100	66865

**Source:** Population Census of the Republic of Azerbaijan 2019. Baku, 2022. Volume XIX.

We also examined the changes in the ethnic composition of the population in the northern border regions in 2009-2019 (Table 2). During these years, a decrease was observed in the number of other nationalities, except for Azerbaijanis, Georgians, and Sakhs. The greatest decrease was observed among the Tats. Their number in the region decreased by 5088 people over 10 years.

Chapter 3 of the dissertation is dedicated to **"Characteristics and dynamics of population settlement in the northern border regions of Azerbaijan"**. In this chapter, the population settlement, and rural and urban settlement were studied by sections. Settlements in the northern border regions are located between absolute altitudes of -28 meters and 2400 meters. 1.3% of the population and 5,1% of settlements are concentrated between absolute altitudes of -28-0 m. The lowest settlement in the region, located at an altitude of -28 m above sea level, is the Meshali settlement (Khachmaz region) with a population of 121 people (2019). The altitudinal zone where the population is most concentrated in the northern border regions is the foothills-plain areas covering altitudes of 201-500 m above sea level. This altitudinal belt accounts for 43,7% of the region's settlements and 46,1% of the total population. 38,4% of the urban population and 49,5% of the rural population live in this belt. Favorable natural and geographical conditions and the presence of developed infrastructure areas have led to dense population settlement here.

The sparsely populated altitudinal zone of our study region is between 1501-2000 m and 2001-2500 m absolute altitudes. Due to the change in climatic conditions as you go up in altitude, the lack of favorable opportunities for farming, the longer duration of the cold months, poor infrastructure conditions, and other reasons, the population here has been sparsely settled. In the belt with an altitude of 2001-2500 m, there is 1 village with a population of 58 people (in 2019). This is the village of Alix, which has an absolute altitude of 2400 m. The village was established in 1999. Alix is the highest settlement in both the northern border regions and the Republic of Azerbaijan. The population living here is mainly engaged in beekeeping and animal husbandry.

In general, during 1999-2009, 19 new settlements were established in the northern border regions, and the population increased by 69160 people. In 2009-2019, 1 settlement decreased (Gazangul settlement was merged with Zagatala city in 2010), and the population increased by 66865 people.

The rural settlement system of the northern border regions is represented by 561 rural settlements according to the 2019 population census. This constitutes 13,2% of the rural settlements of the republic. According to the 2019 data, 613526 people live in rural settlements. This constitutes 13,6% of the rural population of Azerbaijan. Analysis of the indicators of the general population census data in 1999, 2009 and 2019 shows that the number of villages increased by 14 during 1999-2009, from 547 to 561. The largest increase was in the Balakan administrative district. 5 new villages were created here: Goyemtala, Darvazbina, Abjit, Bayrambina, Mazingarishan. According to the latest census data of 2019, no population lives in these villages. However, no new villages were created in the northern border regions during 2009-2019, and the population increased by 39505 people.

There are 9 cities in the northern border regions: Khachmaz, Khudat, Gusar, Zagatala, Balaken, Gakh, Sheki, Gabala, Oghuz, and 20 settlements. According to the information as of the beginning of 2022, 216,7 thousand people live in these cities, and 49,1 thousand in settlements. The largest number of settlements is located in the Khachmaz administrative region. Their number reaches 12. There are 1 settlement in each of the Gusar (Samur settlement), Zagatala (Aliabad settlement), and Balaken regions (Gabagchol settlement), respectively, 2 in Sheki (Turan settlement, Chelabikhan settlement), and 3 in Gabala (Bum settlement, Nij settlement, Vandam settlement). In the region we studied, the largest urban area by population is Sheki, with a population of 65,8 thousand people (as of early 2022), and the second largest city is Khachmaz. According to 2022 data, the city has a population of 43,2 thousand people. In the northern border region, the third largest city by population is Zagatala, followed by the cities of Gusar, Gabala, Gakh, Balakan, and Oghuz.

There were 17 urban settlements in the northern border regions in 1999, and 29 in 2022. Thus, the villages of Vandam, Nij, and Bum

in the Gabala region received the status of settlements after 1999. In Khachmaz, the settlements of Ashaghi Lager, Shimal, Dalghali, Meshali, Samurchay, Gunashli, Turist, Sahillar, Arzu, Yeni Hayat were among the urban settlements during the 2009 population census. In the past 2 years, in the period 2019-2022, the number of urban population in the northern border regions increased by a total of 1500 people. In general, the total increase in the urban population between 1999-2022 (in 23 years) was 68684 people. This represents 5,3% of the growth in Azerbaijan's urban population during that period.

Chapter 4 is devoted to **"Demographic development and prospective directions of settlement in the northern border regions of Azerbaijan"**. The demographic base of population settlement in the Republic of Azerbaijan has always been formed mainly by high natural growth, formed on the basis of high birth and average mortality. Although natural growth is the main source of population settlement in rural areas and the formation of areas with different levels of population density, in urban areas, especially in medium, large, and megacities, both natural and migration growth have played a significant role in this process. One of the difficulties in population settlement in the northern border regions is poor road conditions. This problem is more pronounced in remote villages. The lack of asphalt coverage creates difficulties for villagers to travel to other settlements and the district center on impassable mountain roads. In addition, it is necessary to solve the issues of providing hospitals, schools, and food supplies that meet the necessary needs of residents. Some remote villages do not have schools. Children who want to get an education go to neighboring villages. The long distance and the difficulty of traveling in the winter months cause some families to leave remote villages. They move to neighboring villages or district centers. Examples include the villages of Saribaş in Gakh and Yerghi-kek in Gusar. Both villages are located at an altitude of more than 1,500 m above sea level and on the border with the Russian Federation.

The border settlements of the region we studied and the changes in the number of people living there can be seen in Table 3 and Figure 3. As can be seen from the data in Table 3, the population

of 19 out of 65 border settlements in the northern regions of Azerbaijan decreased by 1645 people from 2009 to 2019. The largest decrease was in the village of Gasbina in Balaka. The population there decreased by 918 people in 10 years. The decrease was mostly in settlements bordering Russia, the main reason for which is that the border of our republic with the neighboring state passes through high mountain ranges, which makes transport and economic relations impossible. However, I think that the new "Khanoba" border checkpoint, which will be put into operation in 2023, and the major renovation and expansion of the road connecting this checkpoint with the Samur and Shirvanli checkpoints, will prevent population migration from some border villages of Gusar in the future.

We have also, for the first time, conducted zoning of the border areas of the northern regions according to their attractiveness. Accordingly, we have distinguished attractive areas, relatively favorable areas, and unfavorable areas in terms of border location. This can be seen better in Figure 4. Border zone I, due to its favorable economic and geographical position, as well as its location on transit routes that existed in the historical past and still exist today, has led to a dense concentration of settlements in the area. The population growth rate here has also been almost always positive. Although border zone II has favorable natural conditions and fertile lands, the location of the Zagatala State Nature Reserve in this zone has not allowed for an increase in the number of settlements. Border zone III, on the other hand, is characterized by a smaller concentration of settlements due to its high mountainous terrain and its inconvenience to transport routes with neighboring countries. The limited opportunities for engaging in agricultural activities, the presence of impassable mountain roads, and the remoteness of settlements from regional centers have also led to a decrease in the population number in this zone over the years.

Table 3

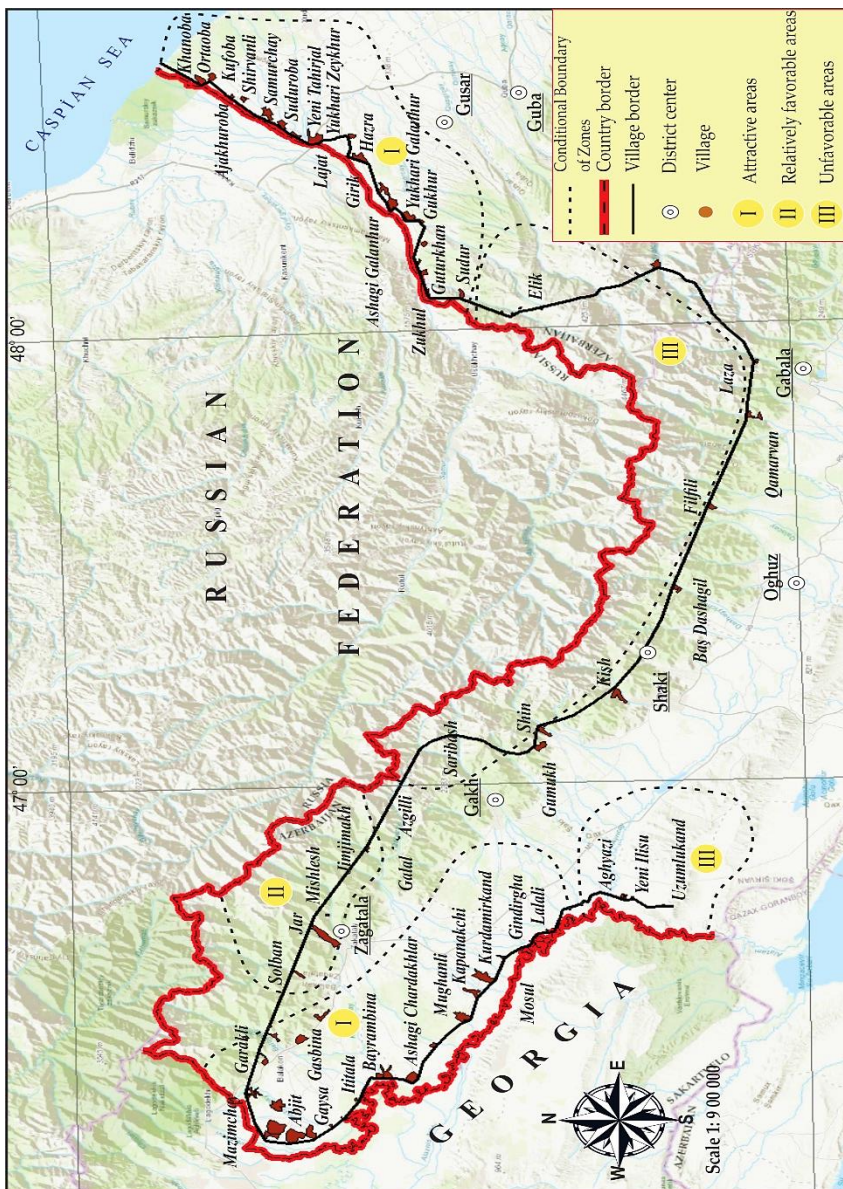
**Border settlements in the northern regions of Azerbaijan.**

Border settlements (with indication of bordering states)	Height, in meters	Distance from the state border in meters	Population 2009	Population 2019	Population (difference-increase and decrease)
<b>Balakan district</b>					
1. Mazimchay (Georgia)	450	670	358	365	7
2. Goyrujluk (Georgia)	400	5183	57	62	5
3. Bayrambina (Georgia)	-	3515	0	0	0
4. Mazimgarishan (Georgia)	-	856	0	0	0
5. Gazboluk (Georgia)	440	3351	1000	1223	223
6. Abjit (Georgia)	-	3264	0	0	0
7. Sharif (Georgia)		1451	3293	3526	233
8. Gaysa (Georgia)	213	4530	3602	3787	185
9. Darvazbina (Georgia)	-	989	0	0	0
11. Ititala (Georgia)	194	1964	2240	2504	264
12. Poshtbina (Georgia)	270	2646	1273	1402	129
13. Goyamtala (Georgia)	-	554	0	0	0
14. Solban (Russia)	207	12996	514	444	-70
15. Gasbina (Russia)	290	14945	2238	1320	-918
16. Garakli (Georgia)	500	2987	3531	3575	44
<b>Zagatala district</b>					
1. Gabizdara (Russia)	530	12155	245	256	11
2. Mishlesh (Russia)	250	14096	137	128	-9
3. Jar (Russia)	650	12984	2506	2638	132
4. Jimjimakh (Russia)	1000	10929	388	412	24
5. Galal (Russia)	1030	10195	16	18	2
6. Azgilli (Russia)	-	11558	0	0	0
7. Ashagi Chardakhs (Georgia)	188	2097	1093	1166	73
8. Kurdamir (Georgia)	197	2620	182	217	35
9. Uzunkazmalar (Georgia)	195	3832	458	522	64
10. Muganli (Georgia)	200	4271	2628	2896	268
11. Kapanakchi (Georgia)	210	5093	996	1115	119
12. Mosul (Georgia)	208	4473	2939	3202	263
<b>Gakh region</b>					
1. Gindirga (Georgia)	170	364	109	134	25
2. Lalali (Georgia)	170	379	476	523	47
3. Aghyazi (Georgia)	225	3464	628	627	-1
4. Uzumlukend (Georgia)	250	4702	75	51	-24

5. Yeni Ilisu (Georgia)	220	3850	215	186	-29
6. Saribas (Russia)	1600	3685	132	114	-18
<b>Sheki region</b>					
1. Shin (Russia)	1010	9885	1543	1585	42
2. Gumukh (Russia)	500	12316	1035	1038	3
3. Kish (Russia)	1175	10563	6687	7176	489
<b>Oguz region</b>					
1. Bash Dashagil (Russia)	1150	16812	1211	1164	-47
2. Filfili (Russia)	1130	12771	768	783	-5
<b>Gabala district</b>					
1. Gamarvan (Russia)	1125	14362	1944	1943	-1
2. Laza (Russia)	1350	18904	1095	1053	-42
<b>Khachmaz district</b>					
1. Samurchay settlement	-27	1689	49	42	-7
2. Khanoba	52	980	824	509	-315
3. Zukhuloba	75	1253	125	131	6
4. Ortaoba	57	2044	498	533	35
<b>Gusar district</b>					
1. Zukhuloba	118	354	121	148	27
2. Ajakhuroba	124	5607	221	252	31
3. Shirvanli	190	1596	1162	1126	-36
4. Kufoba	225	1154	438	438	0
5. Yeni Tahircal	265	588	483	555	72
6. Samur settlement	230	1617	2054	2319	265
7. Zukhul	165	389	414	447	33
8. Yukhari Tahircal	829	1870	449	529	80
9. Girik	660	1530	1307	1449	142
10. Hazra	675	1599	1454	1561	107
11. Lajat	640	2672	693	796	103
12. Alix	2400	5227	86	58	-28
13. Sudur	1800	2263	459	446	-13
14. Gukhur	1630	2718	52	27	-25
15. Suduroba	170	3845	308	406	98
16. Yukhari Zeykhur	480	2140	1020	1061	41
17. Najafkand	700	1701	274	275	1
18. Ashagi Galankhur	670	1306	94	85	-9
19. Yukhari Galankhur	820	799	599	576	-23
20. Guturkhan	1860	3646	283	258	-25







Source: Map compiled by the claimant.

**Figure 4. Zoning of border areas according to attractiveness.**

One of the conditions for strengthening national security is to achieve sustainable socio-economic development of border regions, to raise the standard of living of the population living there to a level comparable to that of neighboring countries. *"The development of border regions is also important because the border is the "showcase" of the state. It not only defines the contours of the territory covered by the state but also represents an element of social structure, and national identity and is a powerful tool for its formation"*<sup>4</sup>.

This chapter of the dissertation explores ways to enhance the standard of living for the population. Currently, there is no single comprehensive indicator that reflects the standard of living. Since 1990, the United Nations has employed a new measure for comparing living standards globally, known as the Human Development Index (HDI). One of the key indicators of the quality of life is the average life expectancy.

In most developing countries of the world, the average life expectancy is over 85 years. In Azerbaijan, the average life expectancy in 2022 was 76,0 years, including 78,4 years for women and 73,6 years for men, while in the northern border regions the average life expectancy was 75,8 years, 78,0 years for women, and 73,6 years for men (graph 3).

The nutrition of the population and the lack of access to quality medical care for many people are also factors affecting average life expectancy. Analysis of trends in changes in the standard of living of the population in recent years and assessment of poverty show that ensuring employment of the population in Azerbaijan is one of the main conditions for improving the standard of living of the population, and ultimately reducing both the absolute and relative number of people living below the poverty line. In this regard, on November 24, 2003, the President of the Republic of Azerbaijan Ilham Aliyev signed the first decree " On measures to accelerate socio-economic development in the Republic of Azerbaijan". Shortly after this decree, on February 11, 2004, the "State Program for the

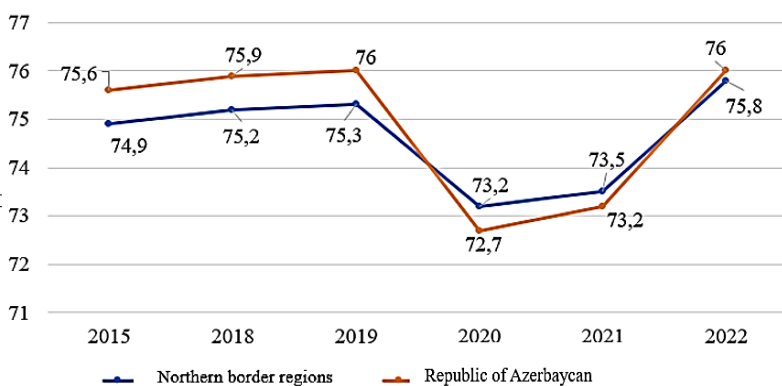
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<sup>4</sup> В.А. Колосов « Современное Российское пограничье: проблемы изучения и некоторые выводы». Российское пограничье: проблемы развития в новых геополитических условиях. Москва- 2019, 180 стр. стр.11.



"Socio-Economic Development of the Regions of the Republic of Azerbaijan" was approved by another decree of the President of the Republic of Azerbaijan, which envisaged the creation of 600000 new jobs. The adopted state programs for the socio-economic development of the regions cover the years 2004-2008, 2009-2013, 2014-2018, and 2019-2023. These programs, which have been successfully implemented since 2004, have radically changed the face of cities, towns, and villages in the regions, and have opened up wide opportunities for increasing the potential of the regions, improving the quality of infrastructure provision, public utilities and the well-being of the population.

Summing up the above, we can conclude that the standard of living is a socio-economic category that characterizes the degree of satisfaction of people's material and spiritual needs. Despite the implementation of several state programs in Azerbaijan since 2004, there is inequality in the socio-economic development of regions in our republic.



**Chart 3. Trend in average life expectancy at birth in the Republic of Azerbaijan and northern border regions.**

Unlike the Baku-Absheron zone, serious problems continue to remain in the socio-economic life of the population in other regions. This leads to an increase in unemployment and poverty in the regions and the migration of the population to the city of Baku. Since the border regions

are of strategic importance for the state, more attention should be paid to providing employment to the population here. Industrial production and many sectors of the economy should be developed. Otherwise, the increase in unemployment and poverty will lead to people leaving their places of residence for a living and a decrease in the population in villages. A policy of population settlement should be carried out, especially in border villages. Otherwise, this will lead to more difficult, irresistible socio-economic consequences in the future.

## **RESULT**

Studying the demographic and settlement issues of northern border regions in Azerbaijan leads to the following conclusions:

1. The vast territorial potential of the northern border regions of Azerbaijan, stretching from the Caspian Sea to the Greater Caucasus Mountains (the settlement amplitude is 2428 meters), combining mountainous and plain relief, favorable climatic conditions, abundant agro-climatic resources, numerous river basins and vegetation, are positive for the development and settlement of the territory, while impassable mountain roads and poor provision of infrastructure areas in high mountainous areas are the main factors negatively affecting this process.

2. Border regions are studied in several directions. We have examined these directions and grouped them into 4 groups: political-geographic, historical-geographic, physical-geographic, and economic-geographic directions.

3. During 2000 and 2021, the natural population growth and birth rates decreased, while the death rates increased in the northern border regions of Azerbaijan. Thus, while the natural growth in 2000 was 7067 people, in 2020 this indicator decreased to 5558 people. In the northern border regions, compared to 2000, the number of children born in 2020 decreased by 17 people, and the number of deaths increased by 1492 people. This occurred in all regions of the region we conducted the study. These demographic indicators, which indicate that very serious problems may arise, indicate a further exacerbation of the natural population growth in the future and require the development of appropriate

programs.

4. Despite the implementation of several state programs since 2004, serious problems continue to exist in the socio-economic life of the population in the northern border regions. This leads to increased unemployment and poverty in the areas, as well as migration of the population to Baku. The proportion of elderly individuals in the population is growing, while the proportion of young people and children is declining. If we look at the age composition of the population in the northern border regions, we will see that in 2019, compared to 1999, the number of residents aged 0-19 decreased by 13.2%, while the share of residents aged 45-64 increased by 12.8%. The main reason for this is the low natural growth rate and the migration of young people from the areas where they live. The highest migration rate was in the Sheki administrative region. The migration balance during these years was -10485 individuals. The lowest number of emigrants was recorded in the Oguz administrative region, with 5019 individuals, resulting in a migration balance of -357 individuals. During 1999-2019, 28995 people arrived in the northern border regions, and 72781 people left. During these years, the migration balance in the region was -43786 people. The migration intensity was 125,3. That is, 125,3 people were registered as migrants per thousand people. The migration coefficient during 1999-2019 was -54,0. The population per 1000 people in the region decreased by 54 people.

5. Due to unfavorable natural conditions in high mountainous areas, lack of jobs, poor fuel and infrastructure, etc., the population here is more subject to migration than in other settlements. This has resulted in a decrease in the population of approximately 100 settlements in the northern border regions. Some rural settlements, such as Sarybash, Alykh, and Kusnet, are largely becoming deserted, which is unacceptable for border areas. As a result of these existing problems, in the northern border regions, the population in the zones above 1000 meters decreased by 611 people, and in border settlements by 1645 people from 1999 to 2019. In the village of Kusnet in Gabala, located at an altitude of 1125 meters, the population was 44 people in 2009, but now the location is uninhabited.

6. From a regional perspective, more people have settled in Sheki

and Khachmaz regions. In Sheki and Khachmaz regions, the population growth has been superior to other regions in the last 21 years, and currently 40,6% of the total population falls on them. Although Khachmaz has one of the highest population growth indicators, and Sheki has an average growth, the annual natural population growth trend has been subject to the greatest decrease in both regions. This decrease will affect the population size, density, structure, and settlement in both regions in the future. For example, the population of Gusarchay, the largest village of the Khachmaz administrative region, which had a population of 5019 people (2009), decreased by 105 people over 10 years to 4914 people (2019). In total, the population of 5 settlements and 88 villages in the northern border regions decreased by 5785 people between 2009 and 2019 .

## **SUGGESTIONS**

1. The border regions hold significant strategic importance for the state, and therefore, greater attention should be given to employing the local population. The northern border areas, which have distinct geopolitical characteristics, are abundant in natural, economic, and tourism-related resources. These regions are also active in terms of foreign economic relations. Each region, including villages and smaller settlements, preserves its own unique historical and cultural traits. This diversity presents an opportunity to expand the tourism sector by developing infrastructure tailored to individual areas. Such initiatives can support the local population by providing employment opportunities and reducing migration. Additionally, this approach is crucial given the strategic border position of these regions.

2. The decrease in the population in a number of settlements of the region we studied is due to the decline in the socio-economic base in those places. Therefore, complex work should be carried out at the regional level to revive these settlements. The level of development of productive forces should be increased in mountainous, especially high-mountainous areas where the population is sparsely populated. The superior development of labor-intensive economic sectors should be ensured. The activity of transport connections between regional centers

and rural settlements in the region should be ensured in all seasons of the year. The location of the northern border regions in a favorable geographical location (on important transit roads) necessitates the development of the highway network in accordance with international standards and the implementation of certain measures in this area. The inefficiency and inaccessibility of transport infrastructure in border regions can lead to problems in the international cooperation of the country as a whole. The transport and communication sphere plays one of the important roles in cross-border cooperation.

3. Taking into account the national-ethnic characteristics of the northern border regions, their geographical location, and the strategic importance of the territory, it is necessary to pay special attention to the processes of delimitation and demarcation of borders with neighboring border states. Considering the unfavorable natural conditions in some high-mountainous areas, it is advisable not to empty the border villages and to provide certain concessions to the population living here for their socio-economic and socio-cultural development. Because these villages serve as a kind of border guard in the region.

**The main content of the dissertation is reflected in the following articles and conference materials of the applicant:**

1. Abdullayeva G.İ. Lənkəran-Astara iqtisadi –coğrafi rayonunda əhalinin yüksəklik qurşaqları üzrə məskunlaşması dinamikası və onun tənzimlənməsi istiqamətləri //-Bakı:Azərbaycan Coğrafiya Cəmiyyətinin əsərləri,- 2012, XVII cild, s.375-380 (həmmüəlliflər Əyyubov N.H, Paşayeva N.B, Kərimova İ.N).
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