

Some Demographic Trends in Borderline Regions of East Caucasus Mountains (Georgia)

Mariam TSITSAGI ^{1*}, Nana KVIRKVELIA ¹

¹ TSU, Vakhushti Bagrationi Institute of Geography, Tbilisi, Georgia

Abstract: It is known that demographic trends in Georgia has been drastically changing in recent decades. Particular attention is drawn to the mountainous regions. Borderline regions of east Caucasus Mountains (Khevi, Khevsureti and Tusheti) are facing many demographic challenges that are developed by the various environmental, social and economic circumstances such as complicated terrain, climate, migration, low birth rate, unemployment, insufficient communication. The purpose of the study is to process and analyze the statistical data of the census materials (1989, 2002, 2014) available in the study area (in the border regions of Eastern Georgia - Khevi, Khevsureti, Tusheti); Identifying existing some demographic trends based on these materials; Identifying the causes of negative demographic processes; Develop recommendations to address the demographic problems identified in the study; The study area includes 148 settlements of present day Stepantsminda, Dusheti and Akhmeta municipalities. National Statistics Office of Georgia (GEOSTAT) is the main source of the statistical data (three national censuses: 1989, 2002, 2014) used in the paper. In addition, the outcomes of the field works conducted in 2015 were also used. Geographic Information Systems (GIS) was used for spatial and temporal analyses of the demographic changes and future trends. The dramatic demographic trends were observed in the study area. This investigation has demonstrated that the situation between these three regions is clearly different from each other. In spite of relatively similar environment, the comparatively better demographic situation is in Khevi, which could be explained by the fact that the Military Road of Georgia goes through here. The results include the similarities as well as differences among the study regions. We summarized these patterns in the paper below. This framework can be used to evaluate demographic trends in the borderline regions of east Caucasus Mountains and answer above mentioned questions.
Key words: Demographic trends, sustainable development, Caucasus Mountains, GIS, Georgia.

1. Introduction

Much research in recent years has focused on the demographic crisis in mountainous regions. The demographic trend is any measurable change in the characteristics of a population over time. The trends in Georgian population are similar to global trends that result in a decrease in birth rate and an increase in mortality rate (National Atlas of Georgia., 2018). In-migration and its effects in high-mountain ranges has become an important issue in the past decades. It is assumed that outmigration from mountain areas linked to industrialization will be replaced by a late-modern in-migration phase characterized by globalization (Loffler *et al.*, 2016). At the beginning of the 19th century, the population within the modern boundaries of the country reached 785,000. From 1800 to 1989, the Georgian population trended to increase. In 1989, the population of Georgia exceeded 5 million people. After the collapse of the Soviet Union, the population decreased and was 3.7 million people by 2014 due to various factors (National Atlas of Georgia., 2018).

Like other mountainous regions of Georgia (Kohler *et al.*, 2017) borderline regions of east Caucasus Mountains (Khevi, Khevsureti and Tusheti) are forced many demographic challenges that are developed by the numerous ecological, social and economic factors such as rough terrain, natural

* mariam.tsitsagi@tsu.ge, Tel: +995555293013

hazards, and climate, migration, low birth rate, unemployment, bad communication (Kvirkvelia *et al.*, 2016). The scope of these processes differs widely between and within mountain regions due to the site-specific development contexts created by economic, sociopolitical, and environmental circumstances (Kohler *et al.*, 2017). The Eastern Caucasus Border Region - Khevi, Khevsureti, Tusheti is 3040 km². It is located in the northern part of eastern Georgia, on the northern slope of the Caucasus Range (excluding Piraketa Khevsureti), which further aggravates the current climatic conditions. Administratively it covers the territory of today's Stepantsminda, Dusheti and Akhmeta municipalities. The study area covers municipalities of two regions - Mtskheta-Mtianeti and Kakheti. The road leading to Georgia's iconic Tusheti mountain area is currently among the world's most dangerous roads. It is well known, that the Abano Pass in the Tusheti protected area is regarded as a crossroads between Europe and Asia by the USA National Geographic Society (Kvirkvelia *et al.*, 2017). The highest located village in Georgia and Europe is Bochorna (Akhmeta municipality) at 2345 m a.s.l (National Atlas of Georgia., 2018).

The purpose of the study is to process and analyze the statistical data of the census materials (1989, 2002, 2014) available in the study area (in the border regions of Eastern Georgia - Khevi, Khevsureti, Tusheti); Identifying existing some demographic trends based on these materials; Identifying the causes of negative demographic processes; Develop recommendations to address the demographic problems identified in the study; Survey the resulting image on the map using the GIS.

2. Material and Methodology

The various research methods were used: statistical, mathematical, comparative, GIS. The available statistical data was analyzed with GIS software, the data was mathematically calculated, diagrams were created to compare and analyze old and new demographic data. Accordingly, modern demographic processes have been identified.

3. Results

Our intention was to analyze population dynamics in borderline regions (Khevi, Khevsureti, Tusheti) of eastern Caucasus. The results are divided into two parts as follows: 1989-2002 and 2002-2014 periods. Evident for this is in Figure 1.



Figure 1. Percentage changes in the population among 1989, 2002 and 2014

Population change in the study regions was different in different periods. During 1989-2002, the highest rate of depopulation was in Khevi (17.1%) and the lowest in Khevsureti (3.7%). The situation is diametrically different between 2002 and 2014, with Khevsureti population halving (53.6%), which is an alarming result. The 1990s were equally difficult for both the lowland and mountain communities, but since the 2000s the standard of living in the country has been improving, but mainly in the capital and other major cities, and the mountains still have a difficult situation, which is the reason for such a strong wave of migration. Finally, according to fig. 1, the highest rate of depopulation between 1989 and 2014 is observed in Khevsureti (55.3%) and relatively lower in Khevi (40.5%).

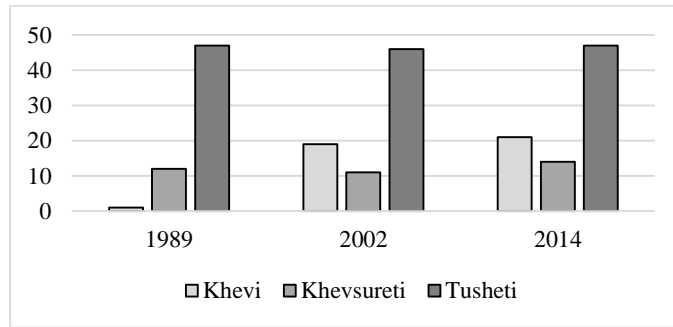


Figure 2. Number of abandoned villages

It should, however, be noted that the process of abandoning of the villages in these regions had been gradually intensified in the 20th century. Accordingly, in the last years of 19th century Tusheti population settled in Akhmeta region. In Zemo and Kvemo Alvani, as well as in Telavi village Laliskuri (Neidze, 2003). As we can see from Figure 2, the number of abandoned villages is stable in Tusheti. There is a particularly high rate of depopulation in the Khevi, and the reason for this is the out-migration of the ethnic Ossetians which left the country and moved to the North Caucasus because of the social, economic and political crisis of the early 1990s. In most of the abandoned villages during this period, the main population was ethnic Ossetians.

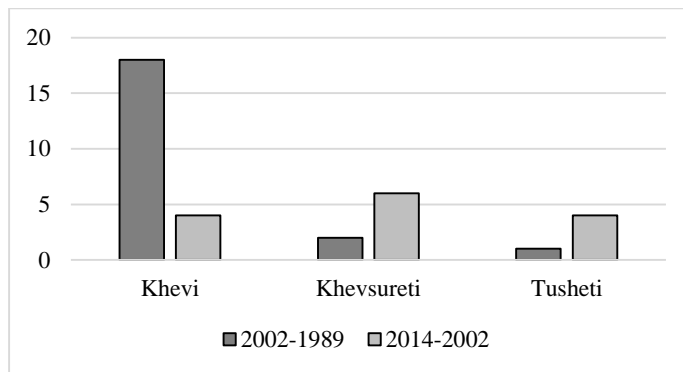


Figure 3. Ratio of abandoned villages among 1989, 2002 and 2014

As illustrated by Figure 3, the number of abandoned villages increased in Khevsureti during 2002-2014 period. Most of the villages are abandoned in Khevsureti from 2002 to 2014, which is largely due to social and economic problems.

Data in Figure 4 suggest that there was a slight positive trend in the re-settlement of abandoned villages in 2002 compared to 1989 (five villages, two villages in Tusheti, three in Khevsureti). The population of these villages is only 1 or maximum 2 people, but the intentions of local community, especially young generation, give us a reason to hope better results for the future census. Gudauri is the only settlement where population increased sharply in 2014 compared to 1989. Gudauri is the most important mountain sports-recreational complex in Georgia. The growing popularity of Gudauri has contributed to an increase in the number of permanent residents.

Analysis of population statistics shows that the eastern regions of eastern Caucasus (Khevi, Khevsureti, Tusheti) face severe demographic challenges. Although all three regions - Khevi, Khevsureti and Tusheti are close to each other and have a more or less complex environment, research has shown that the demographic situation between these regions differs (Figure 5). There is a relatively better situation in Khevi, due to the existence of the old military road here (formerly the Silk Road) and directly to the Russian border crossing point - Larsi. The infrastructure is relatively orderly. With a few exceptions (avalanches), it is connected to the capital all year long, while Khevsureti and Tusheti have been cut off from the rest of the world for almost half a year, power supplies are delayed and often no

first aid is available, impeding the growth of the permanent population in this region. As mentioned above, access to Tusheti is one of the most dangerous in the world (its worth can only be considered as very attractive to wildlife tourists). Protected areas in the region are becoming increasingly popular among both Georgian and foreign tourists, creating additional jobs in the region, which should help increase the number of permanent residents, but still face a number of social and economic issues.

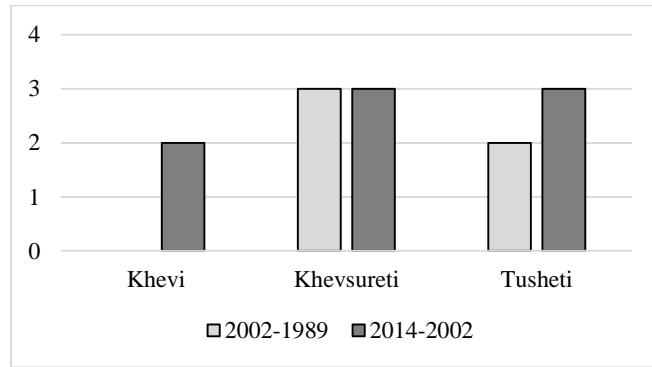


Figure 4. Number of resettled villages

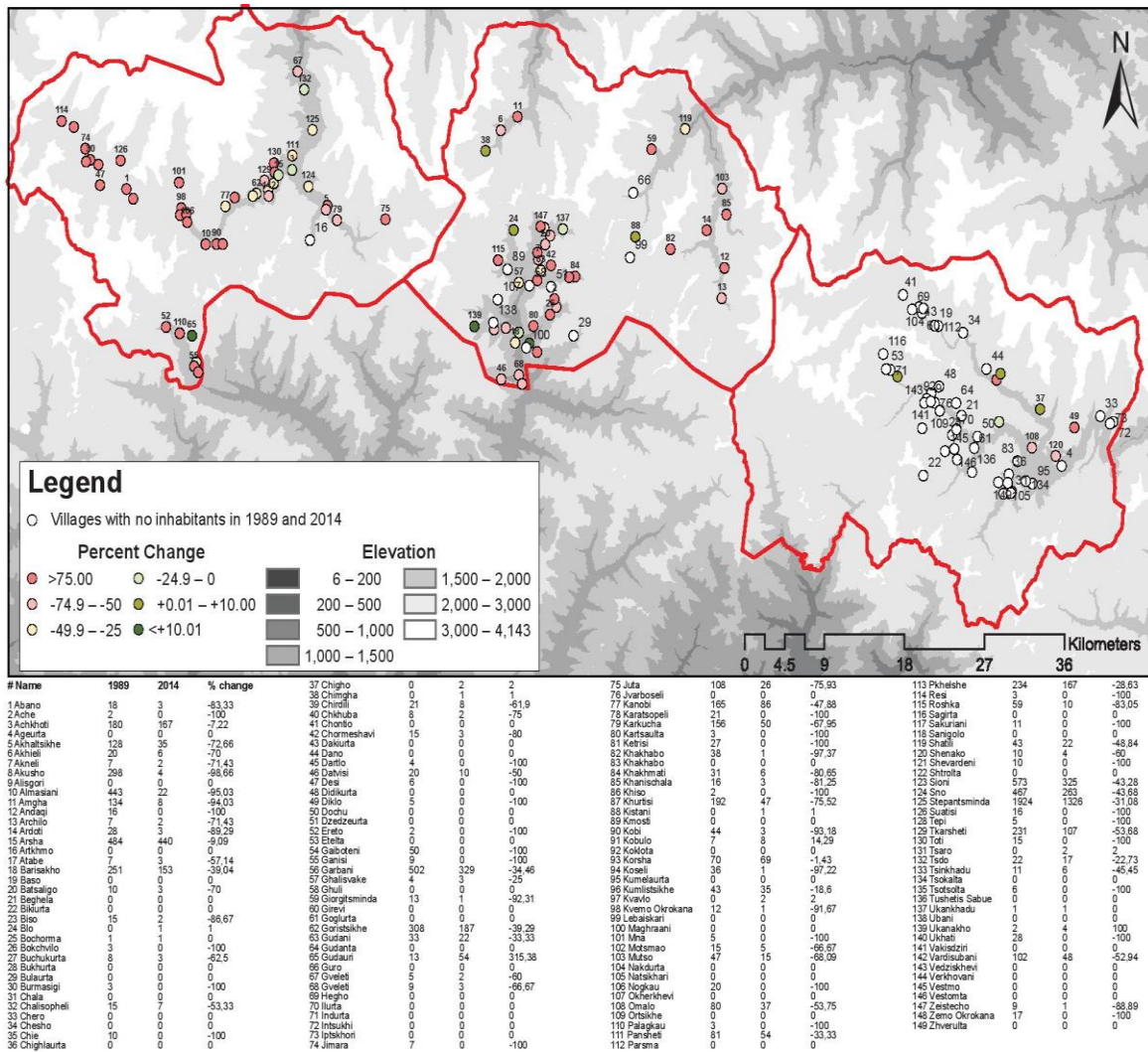


Figure 5. Percent change in population of study area villages between 1898-2014

4. Conclusions

This study shows that the demographic situation in the study region has changed dramatically over the last 25 years. Since the study area is a border area, the preservation of the population in this area is very important. The future of this frontier region depends on the location of indigenous peoples. Tourism plays a major role in this. Recently tourism has had a major impact on locating the population. This was conditioned by the implementation of various local or international projects. For example, Tuscany cooperates with the Czech Development Agency. Meetings with locals employed in tourism are organized by Tusheti Guide; Staff are trained in a foreign language (English); Development of a unified electronic hotel booking system, which already includes several hotels; Organized by Friends of the Association and funded by UNDP (The United Nations Development Program), hotel owners are trained in planning / offering a travel package; The ravine was the basis for the development of cooperative farming. For example, "plant the future" to cultivate berries. EU-funded Family Hotels are being built. For example, one of these is the Green Ship. The Ministry of Education, Science, Culture and Sport has implemented the restoration of Mutso, a culturally significant village in Khevsureti, which is listed as a World Heritage Site. While these good shifts are slowly taking place in the region, priorities need to be selected; Trainings for local communities; Informing tourists about local traditions; Preservation of natural and cultural diversity; Proper use of local culture to improve livelihoods and income; Respect for local traditions; However, it is necessary to regulate roads and other means of communication, for example, in some villages of Khevsureti there is no telephone connection and access. It is necessary to create jobs and encourage young people to return to their homes.

References

- Kohler, T. Elizbarashvili, N., Meladze, G., Svanadze, D., Meessen, H., 2017. The Demogeographic Crisis in Racha, Georgia: Depopulation in the Central Caucasus Mountains. *Mountain Research and Development*, 37(4), 415-424.
2018. National Atlas of Georgia. Stuttgart: Franz Steiner Verlag.
- Kvirkvelia, N., Tsitsagi, M. & Gugeshashvili, M., 2016. Snow Avalanche Terrain Modeling; A case study from Gudauri-Kobi part of Military Road of Georgia. *Journal of Young Researchers*, Volume 4, 21-30.
- Kvirkvelia, N., Tsitsagi, M., Gugeshashvili, M. & Chaladze, T., 2017. Terrain Morphometric Analysis to Support Tourism Development in the Tusheti Protected Area. In: R. Efe & M. Öztürk, eds. *Contemporary Studies in Environment and Tourism*. Newcastle upon Tyne: Cambridge Scholars Publishing, 427-434.
- Löffler, R., Walder, J., Beismann, M., Warmuth, W., Steinicke, E., 2016. Amenity Migration in the Alps: Applying Models of Motivations and Effects to 2 Case Studies in Italy. *Mountain Research and Development* (MRD), 36(4), 484-493.
- Neidze, V., 2003. Tusheti. In: Z. Tatashidze, ed. *Social-economic geography of Georgia*. Tbilisi: Metsniereba, 190-253.