

THE INTRA-REGIONAL ORIGINALITIES OF POPULATION'S DYNAMICS OF MOUNTAIN REGIONS OF GEORGIA

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Abstract

During the period of world-scale demographic boom, one of the global issues constitute the decrease of population in mountainous regions, which quantitative and qualitative indicators are characterized with regional originalities. The political and social-economic processes recently developed in Georgian mountains affected its demographic development, thus as a result, the population through 1989-2017 years was decreased from 510,2 thousand to 307,6 thousand (in other words, it decreased by 39,7%). The population decrease is noted in all mountain regions, which is characterized by numerous originalities. Coming out of this point, the issue is quite urgent and its study presents one of the most significant topic of Georgia's demographic development. The main aim of the study is to define the main properties of demographical development of mountain regions of Georgia, in particular – population dynamics, natural movement, age-gender structure and migration processes. Find out factors provoking (causing) current demographical changes in some particular mountain regions and their development tendencies. Besides, assess the existing issues on the example of current demographical processes in the world and Caucasus mountain regions and set their settlement ways. The decrease of population in mountainous region is caused by drop of natural increase rate, breach of gender and age structure and activated migration processes. Improvement of demographic condition in Georgian highland regions mostly depends on state's demographic and social-economic policy, and the study held, should have cognitive and the applied meanings in study of world mountain regions' demographic processes.

Keywords: *demography, population dynamics, natural increase, migration*

1. INTRODUCTION

The country's demographic development was directly and indirectly influenced by political and social – economic processes held in independent Georgia. The population in 1989 - 2017 years was decreased by 1,67 million (from 5,40 million to 3,73 million) or by 31,0%. The dynamics of population of the country was different throughout time and space. Especially it was been visible in mountain regions, where the population is still decreasing. The general regularity is that the demographic development of world's mountain regions and mastering of existed resources is connected to population's optimal amount, which constitutes one of the actual issue of modern life and the main salvation of the problems is sustainable development of mountain regions (Glorsen et al, 2016; Huber et al, 2005; Koulov et al, 2016; Messerli,

2012; Wehrli, 2014; Zhelezov, 2011). The similar issue is indicated in mountains of Georgia, where the population decreasing tendencies are observed as a result of geographic location, natural conditions, demographic processes and social-economic development level originalities. The urgency of the topic is increased also with the issue, that mountains cover 65% of the country's territory, where lives 8,3% of total population and where in average 10-11% of Gross Domestic Product is being processed.

The research object is 18 municipalities being under Georgian jurisdiction, which because of their geographic location, natural conditions and social-economic development originalities are considered as mountain regions. Accordingly the following 7 different regions are separated: mountains of Ajara (the municipalities of Keda, Shuakhevi and Khulo), Svaneti (the municipalities of Mestia and Lentekhi), Racha - Lechkhumi (the municipalities of Ambrolauri, Oni and Tsageri), mountains of Tusheti (the municipalities of Dusheti, Tianeti and Kazbegi), Meskheta (the municipalities of Adigeni, Akhaltsikhe and Aspindza), Javakheti (the municipalities of Akhalkalaki and Ninotsminda, where mainly the Armenians inhabit) and Kvemo Kartli (the municipalities of Dmanisi and Tsalka, where mainly lives Azerbaijanian people). It is natural, that each region holds specific problems, which identification and planning the proper events would have the special significance in mountain region's sustainable development. Coming out of this, the study held in the field of development of mountain regions of the world would have a huge useful meaning in solving the particular mountainous region issues. Under the global approach, the efficiency of problem-solving existed in front of local area, constitutes a guarantee to positive outcomes.

2. BACKGROUND

The demographic development of Georgia was worsened since 90ies of XX century when the independence was declared. The population amount was decreased, the natural increase indicator was dropped, gender and age structure was worsened and emigration processes was strengthened. The changes in demographic processes more or less likely covered absolutely all regions. It still develops under worsening tendency.

The main goal of the research is to study intra-regional originalities of population's dynamics of mountain regions of Georgia, which represents one of the urgent topic of demographic development of the country. In order to achieve the goal set the following tasks should be solved:

- Establish main spatial originalities of quantitative and qualitative indicators of the population of mountain regions of Georgia;
- Find out the main mechanism of demographic changes being held in mountain.
- Establish the tendencies of demographic development in mountains of Georgia and set its further improvement ways.

The solving of demographic issues existed on the study area more or less is being exercised by performing the administrative activities according to demographic policy, but the problem stays unsolved yet because of the main properties' inexistence of qualitative side of the demographic processes. Accordingly, the conclusions received as a result of the foregoing study will have not only cognitive, but useful meaning as well.

2.1 Literature review

The analysis of demographical development in Georgia is subject to existing literature (Jaoshvili, 1996; Meladze, 2007; Tsuladze et al, 2008), on the basis of which, the impact of political, social-economic and ecological factors on the mountain regions' demographic development were defined during the study period. In order to solve the existing demographic

problems in mountain regions of Georgia, we studied the analysis of current demographic processes (Gretter et al, 2017; Kohler et al, 2017; Mladenov, 2011; Nicilovic, 2011) in mountain regions of the world, thus with global approach, there might be found out the ways to implement specific tasks. In order to reach the aim set, we assessed the existing condition (Avdeev, 2015; Duthé et al, 2010; Podosyan, 2013; Totadze, 1998; Zagirova, 2016) on the background of demographic development of Caucasus region countries.

2.1.1 Theoretical implications

Mainly traditional methods were used during the study (Golubchic, 2005, Nikolaiishvili, 2014). Demographic development of Georgia and mountain regions according to chronological order was found out by historical method and the originality of demographic development process from the commencement of period of study to the last period were defined by dichroic approach.

The originalities of similarity and difference among quantitative and qualitative indicators of population in particular regions were found out via comparative analysis method. Besides, there was clarified the indicators of demographic development mechanism in study regions and by their means the further development tendencies were defined.

The synthesis of territorial analysis of study events and processes were found out by spatial – time analysis method. Also there was found out the analysis of spatial changes happened in study regions population quantity dynamics during the time (Halder, 2018).

The statistical method has done a big job to the research. In particular, during the conditions with incomplete data (indicators) and based on the difference among the natural increase absolute indicators and amount of the population of study period there was defined the migration amount and intensity of particular region. Besides, there was used the methods and results of the study held in world's mountain regions (Gleeson et al, 2016., Gurung et al, 2012., Löffler et al, 2016; Messerli et al, 2008).

3. ANALYSIS

From the beginning of XIX century till 90 ies of XX century, the population's dynamics of Georgia was developing with increasing tendency, but the amount of population in independent Georgia was decreased by 31,0% in 1989-2017 years. If there was an insignificant increase tendencies of country's population increase during the recent years, the population of mountain regions still decreases (figure 1).

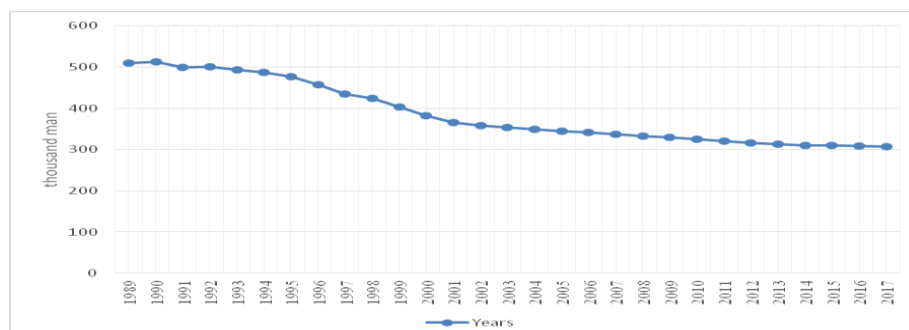


Figure 1. Dynamics of the population of mountain regions of Georgia in 1989-2017 years.

The brought data (Figure 1) makes clear, that mountain population in 1989-2017 years was decreased by 202,6 thousand (from 510,2 thousand to 307,6 thousand) or by 39,7%. While the political events played the critical role towards the population's dynamics of the

country, the huge role to the population in the mountain regions have played social – economic processes, thus as a result the natural increase rate was dropped (even depopulation is observed during the recent years), the population`s gender and age structure was worsened and migration processes was strengthened. Besides, the worsening of ecological condition also influences on the mountain population`s decrease. Actually, almost in every region (except Javakheti) the natural disaster processes are being activated and as a result – the particular part of population is forced to move in plain regions. Furthermore, natural disaster processes play provocative role in the dynamics of mountain regions population. In particular, the population suffered from natural disasters gets the state allowance, because of that the more and more part of population is interested to be involved in municipal programs and move (settle) in urban settlements. It`s quite important to foresee an ecological condition in demographic and social – economic development of mountain regions, which is proved even particular example of mountainous Ajara. In particular, during of 1990-2000 years up to 55 catastrophic landslide were formed in mountainous Ajara and as a result 2/3 part of populated areas were endangered, over 1050 dwelling houses were destructed, landslide covered 6770 hectares of agricultural land, about 165 km of different category road were out of order, over 80 people were dead and up to 25 thousand environmental migrants were moved from disaster area in different regions of Georgia. Accordingly, during the particular time frame as a result of influence of different factors – the dynamics of mountainous region`s population under quantitative and qualitative indicators were different. If we discuss the dynamics of the population of mountain regions by particular periods of time, then quite big part of the population during 1989-2002 years actually was decreased by 152,0 thousand man (from 510,2 thousand to 358,2 thousand or 29,8%) or by 11692 man per year. In 2002-2017 years the population decrease (from 358,2 thousand to 307,6 thousand or by 50,6 thousand man or in average 3373 man per year) continued but it was 3,5 times less comparing to the previous period. The mentioned originality was mainly caused by political and social – economic factors. In particular, in initial years of an independent Georgia, the emigrants were replaced by the population of mountain regions, but in recent years the decrease of mountain population in slow pace is caused by social – economic condition`s improvement in the region. As of inter-regional dynamics of the mountain population, it had a quite different course (table 1).

Table 1. Dynamics of the population of Georgia and mountains in 1989-2017 years (1000 man)

Georgia and mountain regions	1989 (Census)	2002 (Census)	2017 01.01. (Estimate)	In 2017 year comparing to 1989 year (in percentage)
Georgia	5400,8	3978,5	3728,0	- 31,0
Mountains of Georgia	510,2	358,2	307,6	-39,7
Mountains of Ajara	85,1	64,3	57,1	- 32,9
Svaneti	26,1	18,1	13,8	- 47,1
Racha - Lechkhumi	47,0	37,8	26,2	- 54,3
Mountains of Tusheti	59,2	46,7	39,9	- 32,6
Kvemo Kartli	96,3	56,5	39,3	- 59,2
Meskhети	89,5	76,2	66,2	- 26,0
Javakheti	107,0	81,3	65,1	- 39,2

Source: Table 1 is created by us with the help of www.geostat.ge materials.

Table 1 shows, that during of 1989-2017 years, the population was decreased absolutely in all mountain regions, the said decrease was in average under 26,0% - 59,2%, that can be

explained by geographical location, different natural conditions, political processes, ethnical diversity, demographic originalities, social – economic development level and worsened ecological condition.

The key factor, which influenced the dynamics of the population of mountain region is the drop of natural increase level. There should be mentioned a circumstance, that population increase in mountain regions was completely depended on natural increase, where the increased reproduction rate (indicator of average natural increase per thousand man during of 1970-1980 years was 18-24 man) was mentioned up to recent years. Moreover, the mountainous regions of Georgia constituted the main source of country`s population increase by natural increase. Since 90`s the population`s natural increase was decreased in independent Georgia, thus occurred a depopulation trend.

The data taken under the research period was selected according to the period while the natural increase was at its peak (the highest) and fall (the lowest) points (Figure 2).

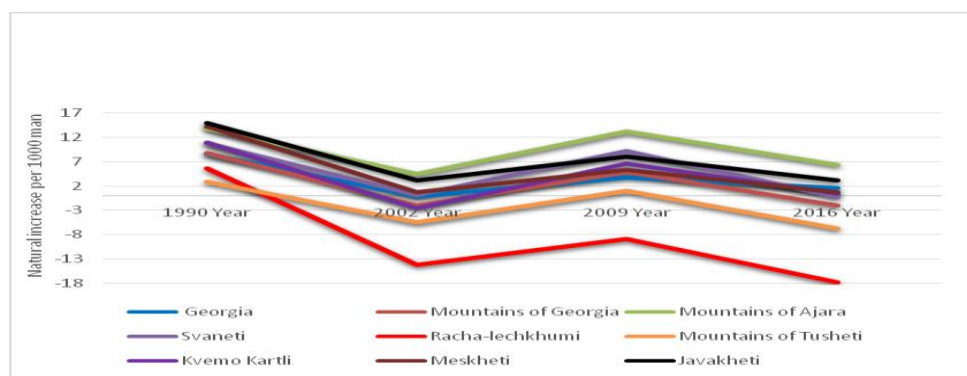


Figure 2. Natural increase dynamics of the population of Georgia and mountain regions in 1990 - 2016 years.

Natural increase of population in Georgia in 1990-2016 years (per 1000 man) was dropped from 8,6 to 1.6 per mille (or it was decreased 5,4 times) and in mountain regions it fell from 8,7 to 2,0 per mille (or it was decreased by 10,7), thus the depopulation is being observed currently. The main reason of population`s natural increase fall is broken gender and age structure and worsened social – economic condition. More different was natural increase indicators of mountain regions. The statistical data (Figure 2) shows, that population`s natural increase for all Georgian mountain regions has a worsened tendency. The best natural increase indicator for 2016 year among the regions was in mountains of Ajara – 6,4 per mille; comparatively better condition is in Javakheti and Meskhети and the depopulation is observed in rest of all regions, especially in Racha – Lechkhumi region, where the depopulation has reached its historical point – 17,7 per mille.

The drop of natural increase rate of mountain region`s population is mainly caused by changes in population`s gender and age structure. According to 2002 and 2014 census data, the share of men was increased by 1,4% (from 48.1% to 49,5%), which doesn`t meet the common regularity during the fall of natural increase. The mentioned originality mainly can be expressed by migration processes (elderly men less frequently leave motherland), with increase of the average life expectancy and increase of men above 84 age which amount was increased during of research period from 943 to 1517. If the gender structure will be analyzed under intra-regional scope in connection of mountain regions` average indicators during 2002-2014 years, the increase of men`s specific share can be observed absolutely in all regions, especially in Racha – Lechkhumi by 1,9% and comparatively less in Meskhети (by 0.5%). Notwithstanding the fact, that the mentioned indicators (on the background of depopulation) are irrelevant to general demographic regularities, which are related to the recent changes made in some of industrial structure`s fields (including the tourism

development), while mostly men are involved in this field. From another side, the increase of amount of men was somehow influenced by realization of mountain law as well.

The total analysis of mountain regions population dynamics needs to discuss the population's gender structure. During the recent years, the significant changes are observed in gender structure, which exercises direct influence on region's demographic development (Figure 3).

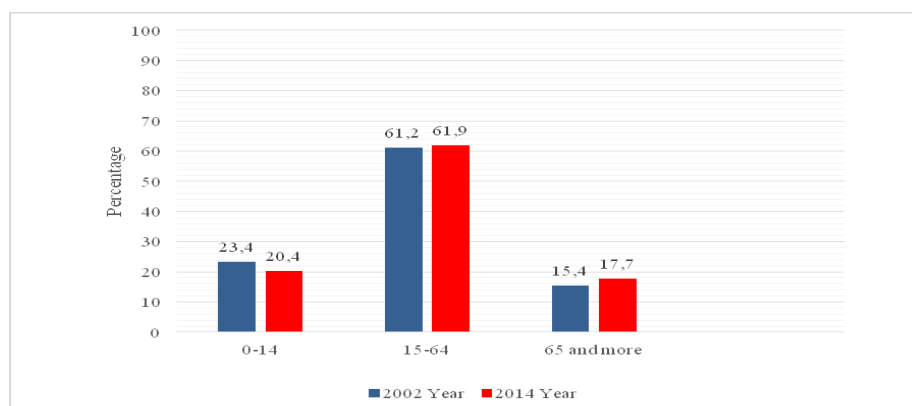


Figure 3. The age structure of the population of mountain regions in Georgia in 2002-2014 years.

According to the data of 2002 and 2014 years censuses, the specific share of 0-14 aged group of population is developing with worsening tendency and its indicators was decreased from 23,4% to 20,4% (Figure 3). Under intra-regional scope the decrease can be seen in everywhere, especially in mountains of Ajara by 9,0% (Despite the fact, that in mountainous Ajara we have the highest natural increase rate, but comparing to 1990 year, the mentioned indicator was decreased by 2.3, which has influenced on youth specific share) and less likely in Kvemo Kartli (by 2,9%). The population aged as 15-64, was slightly increased, that is related to decrease of specific share of 0-14 aged population. As for dynamics of population of 60 and older age groups except Kvemo Kartli region (where it was decreased by 2.3% because the working age labor resources were moved from the mountains of Ajara) it was increased everywhere, especially in Svaneti by 3.7%. The quantitative and spatial changes made in the gender and age structure of the population of the study region are mainly caused by fall of natural increase rate and the originalities of migration processes.

The critical role for the mountain population dynamics has played the migration processes. The study region since 30s` of XX century always had a negative migration balance, which intensity was far increased in 50s`. The migration intensity was significantly increased after the known political events held in 90s` in independent Georgia, though recently there are observed its decrease. If we analyze the intra-regional originalities of migration processes of modern European population, we will see, that population's legal migration more likely is connected to social and economic factors, including the employment (Borjas, 2006., Coleman, 2008; Favell, 2008; Giulietti et al, 2013; Palmer et al, 2015; VanNimwegen et al, 2010). During the recent years, this tendency was shaped in Georgia as well, which is especially typical to mountain regions (Putkaradze et al, 2018). In order to fully find out the migration processes of mountain population, the most trustful method is to define the migration intensity based on absolute amount of the natural increase (the amount of population by 1990 year plus absolute indicators of natural increase of 1990-2016 years and minus the amount of population in 2017 year), (table 2).

Table 2. The properties of natural increase and migration of the population of Georgia and mountain regions in 1990 - 2017 years (man).

Georgia and mountain regions	Population in 1990	Population in 2017	Natural increase absolute amount in 1990-2016 years	Migration negative balance in 1990-2016 years
Georgia	5424000	3728000	309350	2005350
Mountains of Georgia	512200	307600	33339	237939
Mountains of Ajara	84700	57100	16891	44491
Svaneti	26000	13800	2848	15048
Racha - Lechkhumi	48700	26200	-10562	11938
Mountains of Tusheti	59300	39900	-1136	18264
Kvemo Kartli	95800	39300	4895	61395
Meskhети	91200	66200	8476	33476
Javakheti	106500	65100	11927	53327

Source: Table 1 is created by us with the help of www.geostat.ge materials.

The brought data (table 2) makes clear, that negative migration balance in Georgia during of 1990-2016 year was 2005350 man, or average migration intensity per 1000 man was 370 man and in mountains of Georgia the negative balance was 237939 man, or average intensity – 465 man. Comparing to country's average indicators, the high migration indicators of the population of mountain regions can be described by the following factors: 1. The emigrants left the cities of Georgia were replaced by the population from mountain regions (the apartment price in the cities of Georgia was quite cheap by that period of time); 2. The population from mountain regions was mainly settling in the country area (an exception is the mountains of Kvemo Kartli, where the Greek population permanently moved in Greece); 3. The settlement of mountain population into urban areas somehow relates to employment opportunities and improvement of life standards; 4. During the recent years, the ecological condition was worsened in mountain regions, that strengthened the migration processes towards the plain regions. For example, in 1989-1991 years the emigrants from the mountains of Ajara was 19138 man, or it was 22.5% of the total population (Putkaradze, 2008; Putkaradze, 2015). As of intra-regional originalities of migration processes intensity in the mountain regions, all regions were characterized with negative migration balance. The highest number of migrants were from Kvemo Kartli 61395 (migration intensity was 640 man on each 1000 man), Javakheti – 53327 man (migration intensity 501 man), mountains of Ajara 44491 (intensity 525 man), Meskhети 33476 (intensity 308 man), Svaneti 15048 (intensity 578 man) and Racha – Lechkhumi 11938 (intensity 245 man). If the migration processes of the population of mountain regions will be analyzed by particular period of time, the significant tendencies will be shaped. In particular, the negative migration balance of mountain regions in 1990 - 2017 years was 237939 man, which quite differs according to periods. The big part of migrants (180233 man or 75.7%) occurred in 1990 – 2002 years and in 2003-2017 years they were 57706 man, or it was decreased 3,1-times comparing to the previous period.

The research has clarified, that population amount in mountains of Georgia during 1989-2017 years were decreased by 39,7%. On the first stage of study period, the determinant influence on decrease the population of mountainous regions was made by ecological and political processes, while during of final period – the mentioned influence was played by social-economic and ecological condition. The demographic development of mountain regions was especially affected by hardest life conditions (among social and economic factors) formed as a result of transitional period, which firstly was expressed in decreased of population's natural increase level (See the figure 2). As of ecological condition's impact on demographic processes, there should be noted, that during the lawlessness of transitional time, the forest resources were intensively cut, the agricultural lands were irrationally used, the roads were incorrectly placed and many other irrational natural management issues were

performed, because of that the geodynamic processes were activated, which forced the local population (especially in mountainous Ajara, Meskheta, Racha-Lechkhumi) to move as an ecological migrants. As for intra-regional originalities of mountainous population's dynamics. Mostly decreased (by 59,2%) the mountains of Kvemo Kartli, which mainly was caused by migration processes, in particular the population having a Greek nationality moved in their historical homeland. The population of Racha – Lechkhumi was decreased by 54,3%, that is the result of depopulation and broken gender and age structure (Kohler et al, 2017). The population of Svaneti was decreased by 47.1%, which can be explained by low natural increase level and migration processes. The rest of the regions also have decreased population, but the population of Meskheta was decreased by smallest part (by 26,0%), which was caused by the fact, that here an eco-migrants were moved from the mountains of Ajara. The population's settlement from mountainous Ajara to Meskheta was also encouraged by the fact, that the regions have adjacent location. Population's such movement was typical for former times as well. From another side, the settlement of environmental migrants were made under state programs as well, thus particular portion of population is interested to be involved in such migration processes as they have desire to get a state allowances (subsidies) made available by government under such circumstances. It should be noted, that moving from one mountainous region to another is quite rare process, which constitutes one of the country's demographic policy's realization results.

As a result of research held, there was defined, that average indicators of population's natural increase in mountain regions of Georgia has decreased course and the depopulation is observed. According to regions, the relatively better situation is in mountainous Ajara and Javakheti, where we have a natural increase, but we have depopulation in rest of all regions (table 2). The transformations performed in natural increase of mountainous population mostly are associated with worsening of gender and structure, migration processes and fall of social-economic condition.

The worsening tendencies are observed even in population's gender and age structure. In particular – the specific share of youth is decreased and population of retiring age is increased. Especially decreased 0-14 aged population in mountainous Ajara. But specific share of population aged 65 and more relatively increased in Svaneti. The changes in gender and age structure of population of mountain regions firstly is related to fall of population's natural increase rate and migration processes.

The analysis of migration processes of population of mountainous regions has revealed, that migration even more strengthened during the period of independent Georgia and in 1990-2016 years the negative balance of migration was 237939 man or the intensity of 465 man per thousand man. The negative balance of migration is observed in all regions, but the highest indicator (640 man) is in Kvemo Kartli, the lowest (308 man) in Mountains of Tusheti. The main reasons of migration processes in study region are political processes, fall of social-economic condition and worsening of ecological condition.

The complex study of demographic condition existed in mountain regions of Georgia needs to analyze the similar processes in Caucasus region, which are characterized with number of originalities. Demographic processes in Armenia almost meet the demographic development in mountain regions of Georgia (Duthé et al, 2010., Podosyan, 2013., Totadze, 1998) Much better condition is observed in mountain regions of Azerbaijan (Avdeev, 2015) but in mountain region of Caucasus from Russian Federation's side, there is much diverse condition, where the population's high natural increase is observed (Zagirova, 2016) which is related to political and religion factors. It's obvious, that current demographic processes in Caucasus won't impact the population dynamics of study region, but regional aspects should be more or less likely foreseen during the settling existing issue.

The study held make distinct, that demographic condition in mountain regions of Georgia has worsening trend, which more or less likely is connected with common regularity of development of mountain regions of the world. In order to ensure the sustainable development of mountain regions of Georgia, firstly the following events should be performed: 1. The population of mountain regions should maximally stay in local areas, which will be possible by improving social-economic conditions on account of local resources usage at their maximum; 2. It is necessary to work out an efficient demographic policy, which will be focused on stimulating the population`s natural increase and regulating the migration processes; 3. The decrease of ecological migrants as a result of natural disasters processes, will be possible by implementing the basic principles of nature management during the business activity.

In recent years the population of the mountain regions less likely abandon their homes and presumably this tendency will remain in the near future, as the mountain law with diverse social – economic projects was brought in action in the country, that constitutes one of the state priority policy holding the population in the mountain regions.

4. CONCLUSIONS

As a result of the study, there was defined, that the population is decreased in all mountain regions of Georgia and its further development presumable would continue with slow pace, as the population`s natural increase rate is fallen and the gender – age structure – worsened, though in recent years there are observed the migration intensity`s decreasing tendencies.

The stabilization of demographic condition in mountain regions of Georgia and its further development constitutes one of the key point of country`s demographic policy, which realization would become possible by raising the regional social – economic level, which will be depended on acting mountain law`s implementation efficacy.

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