



## DEMOGRAPHIC CHANGES IN CARPATHIAN MOUNTAIN SPACE: A CASE STUDY ON APUSENI MOUNTAINS (ROMANIA), BETWEEN 1850 AND 2011

ALTERAÇÕES DEMOGRÁFICAS NO ESPAÇO MONTANHOSO DOS CÁRPATOS: UM ESTUDO DE CASO SOBRE AS MONTANHAS APUSENI (ROMÊNIA), ENTRE 1850 E 2011

CAMBIOS DEMOGRAPHICOS EN EL ESPACIO DE MONTAS CARPATHIAN: UN ESTUDIO DE CASO EN MONTAÑAS APUSENI (RUMANIA), ENTRE 1850 Y 2011

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### Abstract

This study tackles demographic changes in the Apuseni Mountains, analysing the numerical evolution of the population. The period under consideration is between 1850 and 2011, and due to the high temporal gauge we decided to divide into six smaller periods. The necessary data were obtained from the consultation of population censuses and on the website of the National Institute of Statistics. Microsoft Excel 2013 was used to calculate the demographic growth and decrease values. After obtaining the values, they were processed through Geographic Information Systems (ArcGis 10.3 program), finally a series of maps were made. During the study, we found that demographic evolution was closely related to certain decisions, phenomena. Activities in the mining sector, administrative reforms and changing political regimes from socialist to capitalist were the main causes leading to demographic growth and decrease in the Apuseni Mountains from 1850-2011. Towards the end of the 20th century, the demographic component began to face risk phenomena such as the migration of the young population, demographic ageing and depopulation.

Keywords: Changes. Evolution. Demographic. Carpathian Mountain Space. Apuseni Mountains. Romania.

### Resumo

Este estudo aborda as mudanças demográficas nas Montanhas Apuseni, analisando a evolução numérica da população. O período em questão é entre 1850 e 2011 e, devido ao alto alcance temporal, decidiu-se dividi-lo em seis períodos menores. Os dados necessários foram obtidos a partir da consulta a censos populacionais e ao site do Instituto Nacional de Estatística. O Microsoft Excel 2013 foi usado para calcular o crescimento demográfico e diminuir os valores. Após a obtenção dos valores, eles foram processados através de Sistemas de Informação Geográfica (programa ArcGIS 10.3) e, finalmente, uma série de mapas foi produzida. Durante o estudo, descobriu-se que a evolução demográfica estava intimamente relacionada com certas decisões, fenômenos. As atividades no setor mineral, as reformas administrativas e os regimes políticos em mudança do socialismo ao capitalismo foram as principais causas que conduziram ao crescimento e à diminuição de população nas Montanhas de Apuseni de 1850-2011. No final do século XX, o componente demográfico começou a enfrentar fenômenos de risco, como a migração da população jovem, o envelhecimento demográfico e o despovoamento.

Palavras-chave: Alterações. Evolução. Demográfica. Espaço das Montanhas Cárpatos. Montanhas Apuseni. Romênia.

## Resumen

Este estudio aborda los cambios demográficos en las Montañas de Apuseni, analizando la evolución numérica de la población. El período considerado es entre 1850 y 2011, y debido al alto indicador temporal decidimos dividirnos en seis períodos más pequeños. Los datos necesarios se obtuvieron de la consulta de censos de población y en la página web del Instituto Nacional de Estadística. Microsoft Excel 2013 se usó para calcular el crecimiento demográfico y disminuir los valores. Después de obtener los valores, se procesaron a través de Sistemas de Información Geográfica (programa ArcGis 10.3), finalmente se hicieron una serie de mapas. Durante el estudio, encontramos que la evolución demográfica estaba estrechamente relacionada con ciertas decisiones, fenómenos. Las actividades en el sector minero, las reformas administrativas y el cambio de regímenes políticos de socialistas a capitalistas fueron las principales causas que llevaron al crecimiento demográfico y a la disminución de las Montañas de Apuseni de 1850 a 2011. Hacia finales del siglo XX, el componente demográfico comenzó a enfrentarse a fenómenos de riesgo como la migración de la población joven, el envejecimiento demográfico y la despoblación.

Palabras clave: Cambios. Evolución. Demográfica. Espacio de Montaña de los Cárpatos. Montañas Apuseni. Rumania.

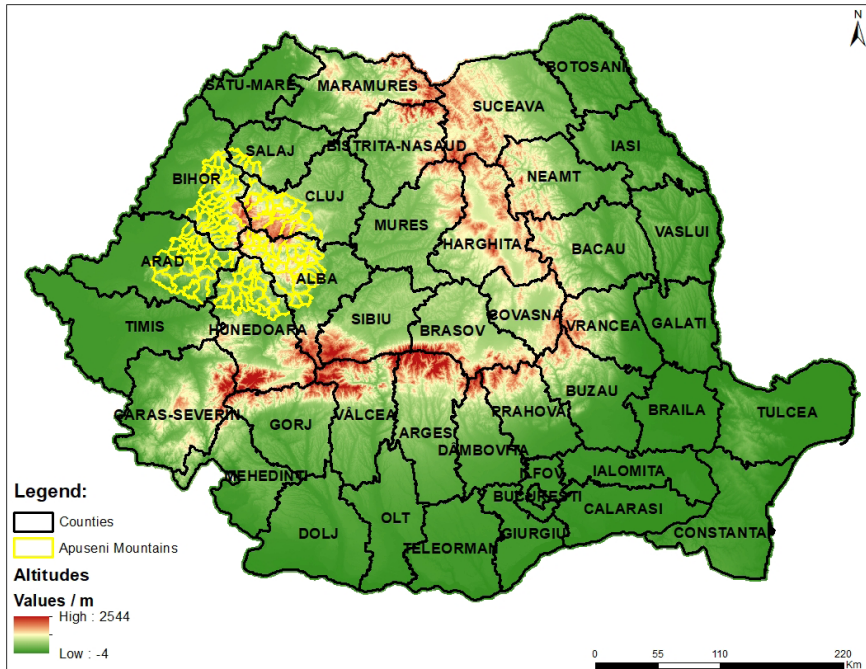
## Introduction

The main objective of this article was to analyse demographic changes in the light of the numerical evolution of the population in the Apuseni Mountains from 1850-2011. Because the temporal gauge is a big one, we decided to divide it into smaller periods, ranging between the different census of the population we used. The research of demographic evolution is an interesting topic because the territory of the Apuseni Mountains has undergone numerous historical-geographic changes. By the year 1918, the mountains were in the administration of the Austro-Hungarian authorities, and after 1918 they came under the subordination of the Romanian authorities. The specifics of the mountains is given by very rich basement resources, finding precious metals in large quantities. These resources were based on large historical events, i.e. due to them in the area of the Apuseni Mountains, demographic, ethnic-confessional mutations took place through colonization actions. The Apuseni Mountains have been represented since the 20 century, a number of studies and even doctoral theses that have been aimed at various aspects. Among the first studies aimed at the Apuseni Mountains were made by Apolzan (1944; 1945), in which social aspects of settlements and aspects of the inhabitants , agricultural occupations are treated. Further Apolzan (1987), conducted a research on the spread of scattered settlements in the Apuseni Mountains, where it identifies causes of the phenomenon of dispelled settlements and models of grouping them according to morphological conformation. The geography of the settlements in the Apuseni Mountains viewed from

the perspective of economic-social systematization came to the attention of the researcher Surd (1982), achieving a genuine doctoral thesis. Jurca (1998), subjected to the study of the depressions inside the Apuseni Mountains, researching them from the point of view of rural geography. In this way, she performed a diagnosis and prognosis of the population and settlements of these mountain depressions. Constantin (2011), made a study of geography applied to the mining settlements in the Apuseni Mountains, and Drăgan (2011), conducted a study on the resilience of the regional system Apuseni Mountains. Because the historical load of Apuseni Mountains is a significant one, Boțan (2010) compiled a regional geography study on the *Land of the Moți*, which is a geographically positioned mental space in the centre of the Apuseni Mountains. The inhabitants of this region of Apuseni identify themselves as the *Moți*, among the oldest inhabitants of these mountains preserving their continuity from ancient times. Last large study focused on the research of settlements in the Apuseni Mountains under various economic, social aspects was achieved by Surd et al., (2017). Lung, Gligor (2018), conducted a study on demographic changes in the cities of the Apuseni Mountains, iar Lung (2018) has compiled a statistical analysis of the natural dynamics of the population in the rural area of the Apuseni Mountains.

### Study area

The Apuseni Mountains are a mountain group belonging to the Romanian Carpathians, their space being expanded into the current territory of six counties (Alba, Arad, Bihor, Cluj, Hunedoara, Sălaj), with an area of 10.750 km<sup>2</sup>. They are delimited in the northern part of the Barcăului Valley, in the southern part of the Mureșului Valley, in the eastern part of the Transylvanian Depression, and in the western part of the Western Hills. The highest altitudes are in the central part, with three peaks passing from 1.800 m (Bihor 1.849 m, Vlădeasa 1.836 m, Gilău-Muntele Mare 1.826 m) (Pop, 2000). (Figure 1)

**Figure 1** - Location of Apuseni Mountains

Source: own study.

## Methodology

To achieve the numerical evolution of the population in the Apuseni Mountains we used seven census population. The first census used was the one in the year 1850 (Rotariu et al., 2004), the census that immediately followed the Pasoptiste Revolution. The following two censused census were those of the year 1880 (Rotariu et al., 1997) and 1910 (Rotariu et al., 1999-2006), drawn up by the dualist authorities (Austro-Hungarian). Therefore, in order to analyse the evolution of the population of the Apuseni Mountains to the Great Union in the year 1918, we used the mentioned census above. The statistical data contained in the first census after the Great Union was used, the census of the year 1930 (Manuilă, 1938). It was the first census made by the Romanian authorities, drawing under strict supervision and coordination of the great scientist Manuilă

Sabin. The census used by us that succeeded the one in 1930, was the census of the year 1966 (NIS), being a census conducted under the rule of the Ethatist regime, established in the year 1948. The penultimate census used was the one in the year 1992 (NIS), from the end of socialism in Romania, representing the last demographic census of the romanian population of the 20 century. The last census we used was the one in the year 2011 (NIS), being the last official demographic review of Romania.

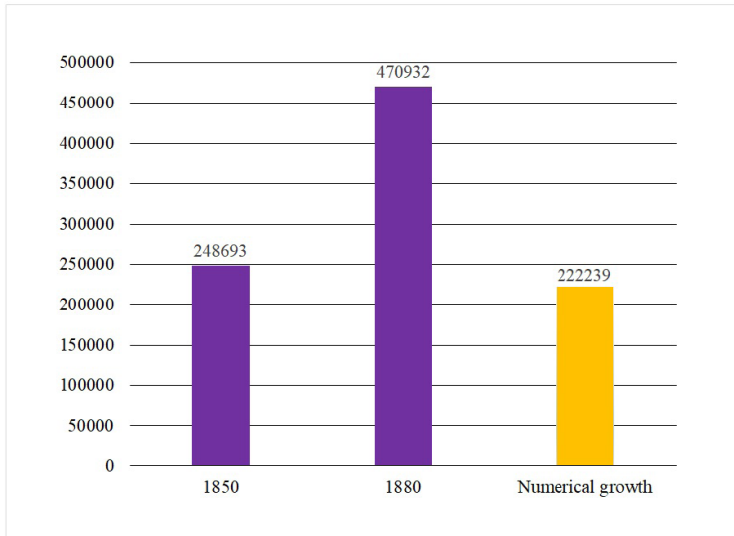
After obtaining the necessary data from those censuses and on the website of the National Statistical Institute (NIS), they were processed through Microsoft Excel 2013, obtaining percentages of demographic increases and decreases. After obtaining these values, he followed their processing with the help of the ARC Gis 10.3 program, finally being generated maps on the numerical dynamics of the population in the Apuseni Mountains.

## Results and discussions

### *Demographic changes between 1850-1880*

At the census in the year 1850, the population of the Apuseni Mountains was 248.693 inhabitants, representing 12% of the total population of Transylvania. In the next 30 years, the population of Apuseni reached 470.932 inhabitants, increasing by 89,3%, with a real increase of 222.239 new inhabitants. (Figure 2)

**Figure 2** - The numerical evolution of the population of the Apuseni Mountains between 1850 and 1880



Source: Data source and own calculation based on data based on data from: Rotariu et al., 2004; Rotariu et al., 1997.

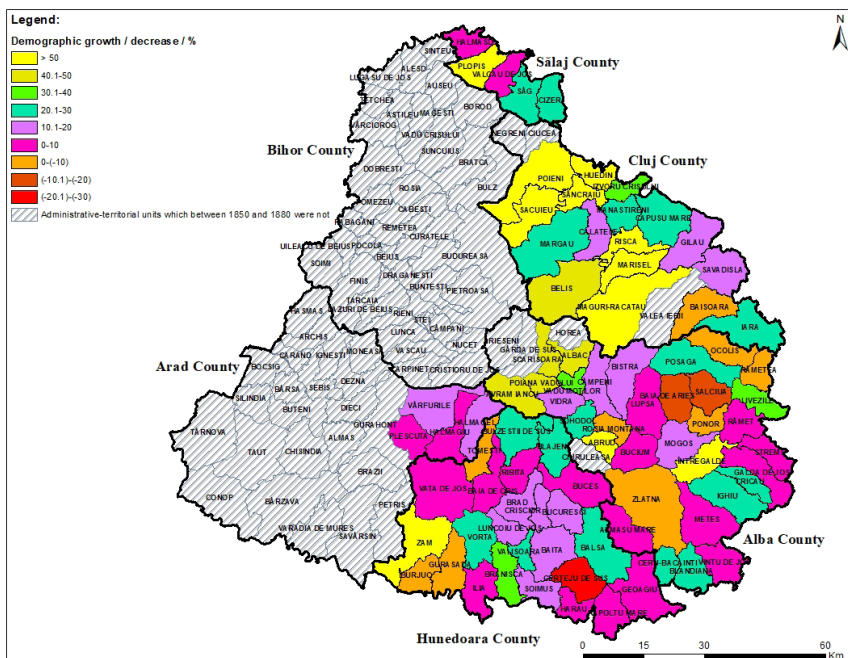
The 1850-1880 period is known among the specialists of the demographical domain (Bolovan, 2000, p.48), under the designation of *l'ancien regime*. This old demographic regime is characteristic of the successions of crises that have passed on to the population more or less. In comparison, in this period the population of Transylvania grew by only 10,8% and the population of the Apuseni Mountains increased by 89,3%. We can see that the population of Apuseni has continuously prospered, with demographic growth above that of Transylvania. (Figure 3)

In the mid-19th century, the territorial administrative organization of the Apuseni Mountains was an ambiguous. At this census of 1850 we do not have data on the Apusenii Bihorului and Apusenii Aradului parts of the Apuseni Mountains, although Trebici (1996, p. 85) made an important statement saying that the term *Transylvania* comprises the region of Transylvania, Banat and Crişana-Maramureş, both in Romanian and Hungarian documents. After the revolution of 1848, Bihorului County suffered a radical administrative organization, being divided into two distinct entities: *Bihorul de Sud* and *Bihorul de Nord*. (Muntean, 2001, p.57)

The administrative unit that was to overlap the Apuseni Mountains was that of the Bihorul de Sud including: Oradea, Aleșd, Marghita, Salonta, Beiuș, Tinca and Mezokeresztes.

Small exceptions are several administrative units that occurred during the 20th century. Ten administrative-territorial units had higher demographic growth of 50%, of which two municipalities in the Apusenii Clujului had the maximum growth values. The municipality of Mărișel had the highest growth in the period 1850-1880, which was 129,9%, followed by the joint Măguri-Răcățău by 119,9%. The population decreased during this period in 12 administrative units, which can Zlatna, Roșia Montană, Baia de Arieș and Certeju de Sus. These units have experienced economic problems due to a lack of technologies for the exploitation and processing of deposits. In large part, the Apuseni Mountains were characterized by population increases, which after 1880 retained continuity with higher growth.

**Figure 3 - Demographic growth and decrease in the Apuseni Mountains (1850-1880) (missing statistical data for the Apusenii Aradului and Bihorulului for the census of the year 1850)**



Source: Data source and own calculation based on data based on data from: Rotariu et al., 2004; Rotariu et al., 1997.

This demographic increase in the Apuseni Mountains can be associated with the demographic growth recorded throughout Transylvania, in the 57-69 years of the 19th century. The demographic rise occurred primarily as a result of the generalization of the positive consequences of the abolition of feudal relations, resulting in changing living conditions in the rural area. The Transylvanian villages, implicitly the villages of the Apuseni Mountains, have experienced undisputed economic progress, with the opening of households to the market as a result of the dissolution of the servitude. After that, the housing conditions were improved, with more rooms being built with more room, gradually following the diversification of food and improving sanitary assistance. All this *painting* of new conditions beneficial to demographic continuity constituted the support needed for significant population increases. (Retegan, 1978; Egyed, 1989 quoted by Bolovan, 2000, p.41)

Important contribution to the prosperity and positive numerical evolution of the dynamic component in the Apuseni Mountains from 1850-1880, was due to the intensification of mining holdings. During this period, new changes in the field of mining legislation on new regulations of the prospecting regime, namely in concession and property regimes, are emerging. In fact, the authorities wished to continuously improve economic legislation, so that mining operations in Apuseni are as intense and profitable as possible. One of the most important laws that covered the Apuseni Mountains region in particular was the Mines Law of the year 1854. At regional level, economic and trade areas have been improved with this new law, coupled with new regulations. The mining industry in Apuseni has passed this law in a new stage of exploitation and processing of subsolic resources.

The Mines Law of the year 1854, has brought detailed regulations on the conditions for opening new mines, regulations on the transfer of property, namely the conditions for the use of immovable and movable assets characteristic of the mining sector (The Mines Law of the year 1854). Also, important role in the development of mining in Apuseni, was due to the phenomenon of liberalising the gold market, stimulating mining activities. All these new measures formulated, approved and implemented by the State have spurred demographic movements in the mining regions of the Apuseni Mountains.



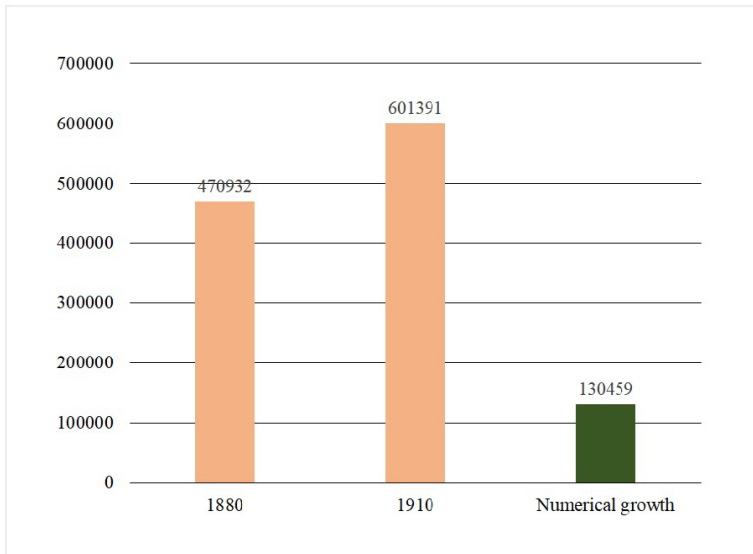
Between 1850 and 1880, there were several dysfunctions, conflicts and restructuring, regarding both state mining and private mining. These dysfunctions were generated by the lack of financial conditions and resources on technological innovation. Most of the technological processes operated through hydraulic force, and the lack of modern transport pathways made it impossible to bring new mining machines to the Apuseni Mountains region. In the absence of more advanced logistics, the workforce has been expensive, so this has been over the profitability of the mines, which has resulted in a decrease in profits in both private and state-owned holdings. The population had to ask for greater rights in the hard work performed, so in the years 60-70 to 19th century, the costs of extracting ore and obtaining the finished product accounted for approximately 50-60% of the total value obtained. (Vajda, 1973)

Between 1871-1880 at regional level, the anthropic component of the Apuseni Mountains faced a demographic decline of about 15,5%, being far above the average recorded at the level of Transylvania, which in the same period recorded a decrease demographic coverage of 5,8%. (Bolovan, 2000, p.36) This surprising demographic decline was the result of the economic crisis in the year 1873, which affected the mining sector in Apuseni. In the year of the economic crisis, in the Apuseni Mountains there were 516 mining holdings of various sizes, in which they were trained no fewer than 8.369 workers. Three years after the incidence of the crisis, the exploitation of the holdings decreased to 383, and the number of workers fell to 6.613. (Vajda, 1973, p.68) In just three years (1873-1876) the number of mining holdings in the Apuseni Mountains decreased by 25,7%, and the mass of workers decreased by 21%.

### Demographic changes between 1880-1910

The period 1880-1910 focused on the previous period, continuing the numerical increase of the population in the Apuseni Mountains. The real increase in growth between 1880 and 1910 was 130.459 inhabitants, with an increase of 27,7%. (Figure 4) By reporting the total population in the census in the year 1850, compared to the total population registered with the census in the year 1910, demographic growth was 141,8%.

**Figure 4** - The numerical evolution of the population of the Apuseni Mountains between 1880 and 1910



Source: Data source and own calculation based on data based on data from: Rotariu et al., 1997; Rotariu et al., 1999-2006.

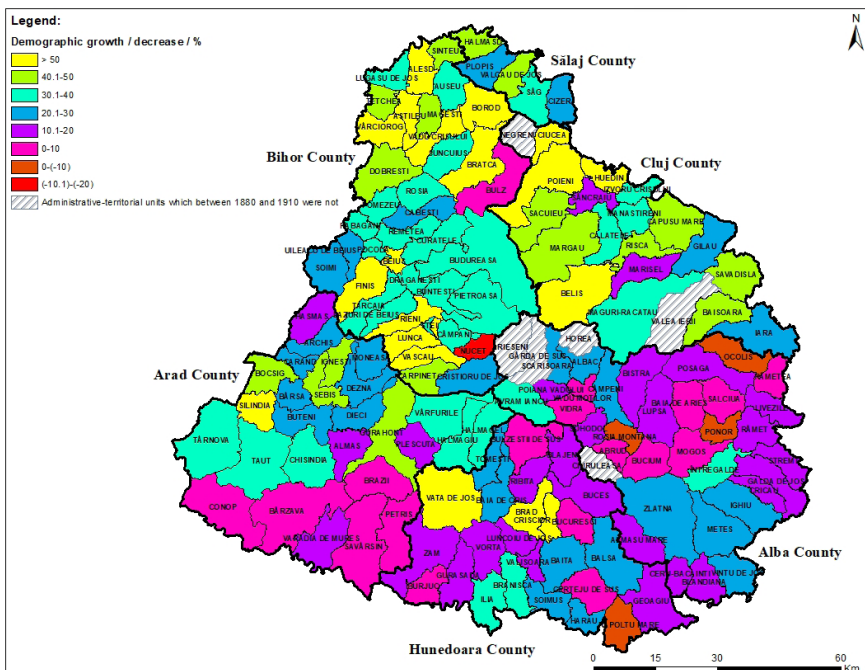
This temporal interval is specific to the (Bolovan, 2000, p.48) debuts of the revolutions/demographic transitions. Since this period, there has been a lot of progress in the industrial, communications, health and food education sectors. This accumulation of innovations has helped to improve the population's level of life, resulting in a reduction in mortality values when birth values were maintained at high level. (Egyed, 1985 quoted by Bolovan, 2000, p.50)

The census of the year 1880 included the entire space of the Apuseni Mountains, so we were able to achieve a genuine first analysis of demographic evolution. From Figure 5, we can see that the 1880-1910 period was prolific to the demographic component, in 19 administrative units with more than 50% increases. However, on the basis of the territorial distribution of the increases we observe that they are largely carried out over the space overlapped by the Apusenilor Bihorului and Clujului. The municipality of Beliș, in the Apusenii Clujului, took the largest demographic growth in the Apuseni Mountains between 1880-1910 being 124,3%. High growth can be attributed to pastoral activities,

because in the exercise of the phenomenon of transhumance livestock breeders from the villages at a higher altitude were able to descend into the territory of the municipality of Beliș. In the time they stood, they lifted numerous locations, called huts, which then became permanent living. With their permanentization, shepherds were able to take their families with them, leading to significant demographic increases.

During this end of the 19th century and the beginning of the 20th century, only in five localities were demographic decreases (Nucet 14,6%, Ocoliiș 0,4%, Ponor 1%, Rapoltu Mare 3,7%, Roșia Montană 8,4%). The largest population decline was recorded in Nucet, as a result of ethnic distortions, which caused the numerical decrease of ethnic Germans by 87,2% during the three decades. The next decrease was in Roșia Montană, where the number of Romanians (9,1%) and Germans (78,3%) decreased, to the detriment of ethnic Hungarians. At Rapoltu Mare, the same tendency to decrease the ethnic Germans was preserved.

**Figure 5 - Demographic growth and decrease in the Apuseni Mountains (1880-1910)**



Source: Data source and own calculation based on data based on data from: Rotariu et al., 1997; Rotariu et al., 1999-2006.

The positive dynamics of the Apuseni Mountains population can be easily put in contrast to the increase recorded for Transylvania. Demographic growth is largely related to the economic development recorded throughout the area of Transleithania (the south-eastern part of Austria-Hungary), including the transylvanian counties overlapping the Apuseni Mountains. Starting with 1880, a modern economic system has been established, which has progressively resulted in the diversification of the industrial sector. The economic revival was felt especially after the adoption of policies by the Hungarian government. Through new policies, new jobs have been created, the food industry has been amplified and diversified, and large municipalities have been forced to employ doctors. (Egyed, 1968, p.252; Berend, Ranki, 1982, p.53; Duțescu, Izsak, Marcu, 1973, p.30 quoted by Bolovan, 2000, p.44) Basically, all these measures helped to prosper the population, to improve the risks of death, which in the previous period could not be removed.

From 1880-1910, localities in the mining area of the Apuseni Mountains are familiar with significant demographic gains, due to investments in the mining sector, which have resulted in a numerical increase in jobs. All these mining localities (Abrud, Baia de Arieș, Brad, Câmpeni, Crișcior, Zlatna) soon became a demographic attraction pole. We must mention that from 1850 to 1910, there were significant demographic increases in the localities Abrud (32,9%), Brad (145,9%), Câmpeni (60,3%), Crișcior (162,1%).

In the table 1 we note that during the 30 years, large demographic increases were recorded especially in Crișcior where in only three decades the population increased by 102,9%, followed by the locality Brad which had an increase of 73,8%.

**Table 1** - Demographic gains between 1880-1910 in mining localities where investments were made

Locality	Year 1880	Year 1910	Demographic growth
Abrud	2.869	2.938	2,4%
Brad	2.326	4.272	83,6%
Câmpeni	2.200	2.967	34,8%
Crișcior	978	2.247	129,7%
Zlatna	2.662	4.317	62,1%

Source: Data source and own calculation based on data based on data from: Rotariu et al., 1997; Rotariu et al., 1999-2006.

In the same period, other mining towns recorded demographic decline due to the lack of investment in the mining sector. From the table 2, we note that the locality most affected by the lack of investment in mining infrastructure was the Săcărâmbul, followed by the locality Roșia Montană, where the demographic decline was somewhat lower.

**Table 2** - Mining localities where the population has declined from the lack of investment in the mining sector

Locality	Year 1880	Year 1910	Demographic decrease
Roșia Montană	5.640	5.165	8,4%
Săcărâmb	1.778	1.248	29,8%

Source: Data source and own calculation based on data based on data from: Rotariu et al., 1997; Rotariu et al., 1999-2006.

Also, the upward dynamics of the population was supported by the introduction into the agricultural circuit of some innovations, which allowed land processing easier and more extensive areas, obtaining better crops than in the previous period. (Egyed, 1968, p.83)

The demographic evolution of the period 1880-1910 was supported among the above mentioned by the change of legislation on the mining sector.

One of the most important and controversial changes made to the mine law was the liberalisation of trade in gold and the possibility of its removal across the borders of the Monarchy. Although at the time the Hungarian state practised a policy to encourage the domestic industry and also a protectionist one, the measure at 1884 thus opened the gates of foreign capital in an extremely profitable area and with exceptional resources. Thus Transylvania and the *gold quadrilateral* (mining area in Apuseni) enter the *California Fever of gold*, materialised by an unprecedented number of investments in the Apuseni Mountains region. With the change of mining legislation, many foreign capital investments were attracted and trained in the Apuseni Mountains. Thanks to these investments outside the monarchy, the gold mining in Apuseni has developed much, thanks to the new mining technology, which in just a few years has resulted in a significant decrease in production costs. The operating prospectations have been geared towards sustainable and efficient development as a result of the start of the use of newer energy resources.

Thus, the attention of the authorities turned to the exploitation of coal deposits in the Crişului Alb basin, gradually introducing the electricity. The old wooden infrastructure was driven by water force, which was closed with new, *Californian-type* infrastructures. The latter was operated by electric current, and the ore was transported from the galleries to the amalgamation tables with electrically operated wagons. The most active foreign capitals during this period in the development of the mining in Apuseni were of origin: French, Belgian, British and German, the latter showing the most interested in investing in the golden region of the Apuseni Mountains. With the help of investments, a number of improvements were made to the Zlatna gold processing plant that brought it to the appropriate technological level, finally ensuring a return. (Nagy, 2011 quoted by Balog, 2014, p.6; Balog, 2014)

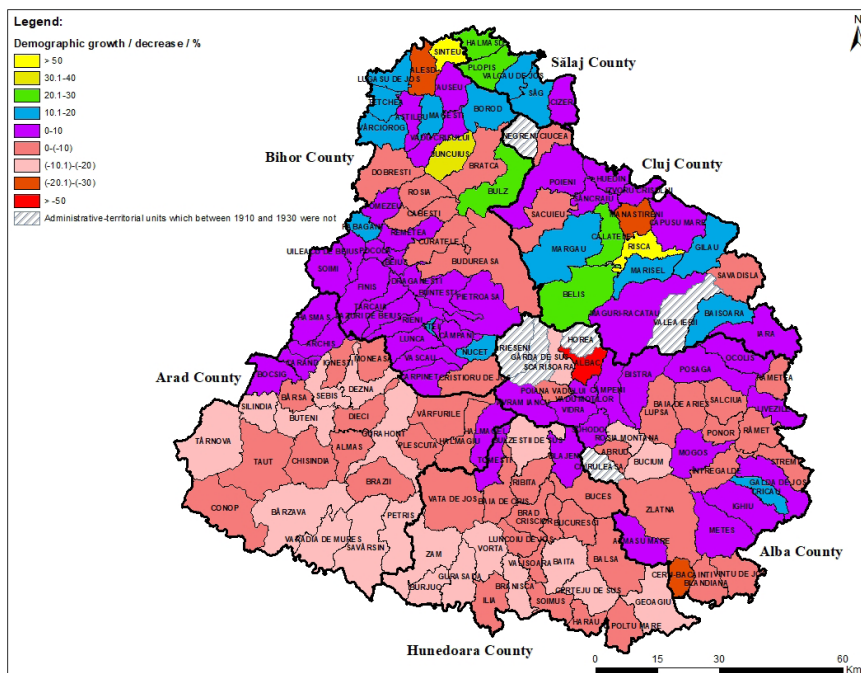
### Demographic changes between 1910-1930

This period is one with numerous historical events that led to a decrease in the population in most of the administrative-territorial units of the Apuseni Mountains. The demographic deichilibras occurred following the beginning of the First World War, on the fronts of which numerous labour force in the Apuseni mining industry was trained. Because of these impediments, the population of the Apuseni Mountains decreased in the light of the femininity-masculinity report that was very unequal, with the number of women superior to the flock of men. Another cause of the numerical decline of men coincided with the demographic decline of the Apuseni, because of the less and fewer procreations. From 1910 to 1930 (Figure 6), the population of the Apuseni Mountains decreased by 1%, and compared to 1880, it increased by 26,3%. In the period 1910-1930, they were registered at the Apuseni level, with four administrative units in which the population decreased considerably, with a decrease of more than 20%. Albac, in the Apusenii Albei, had the highest demographic decline in this range, with a decrease of 52,4%. Basically, in only three decades the population of the commune has halved and the main cause was the administrative reorganization, from 1930 forming the commune of Horea, which took approximately half of the population of the Albacului. According to the census in the year 1910, the population of Albacului was 6.519 inhabitants, losing 3.460 inhabitants with the formation of the

village of Horea in the year 1930. The second largest demographic decrease was in the municipality of Ceru-Băcăiști, which is an administrative unit of Romanian tradition in the Apusenii Albei. Unfortunately, the turmoil of the first world conflagration has been passed on to the population throughout the common. In the period 1910-1930, the municipality of Ceru-Băcăiști was composed of only four villages, each of which was lost in the higher or lower population. Thus, the commune decreased from a demographic point of view by 23%. The village of Mănăstireni in the Apusenii Clujului registered a decrease of 21,1%, on account of the decline of the Romanian population of 21,9%. Also, in the year 1910 the census was registered 14 Germans, 6 Ukrainians and 6 Slovaks, which at the census of 1930 no longer existed. The Aleșd in the Apusenii Bihorului had a decrease of 20,2%, but this time the situation differs from the previous three municipalities mentioned. The decline of the population was due to the migration of the Hungarian population after the Great Union in the year 1918, decreasing by 21,1%, and in addition to these, many citizens of the Slovak community left in very large numbers. The population of Slovak origin migrated 78,7%. The 1910-1930 range is dominated by demographic decreases between values of 0-(-20)%, these values presenting a homogeneous geographical distribution in the space of the Albei, Hunedoarei and Aradului Apuseni. These parts closer to the gold mining holdings were more subjected to population decreases, and in these more southern territories of the Apuseni were more acute military campaigns during the war that decimated the population, or constrained it to migrate. In addition to the dominance of demographic decline, population increases were recorded, predominantly positioned in the Apusenii Clujului and the Apusenii Bihorului. We note, the communes Șinteu of the Apusenii Bihorului and Râșca in the Apusenii Clujului, in which the demographic component prospered in high fates. The population of Râșca rose from 1910 to 1930 four times, a real increase of 1.468 people (425,5%). This great increase was due to the migration of a part of the Romanian majority population from the village adjacent to the commune, Mănăstireni, Beliș and Bica. In this way, the Râșca of Apusenii Clujului came to represent a model of *Romanian dwelling fireplace*, so that from the census of the year 1850 to the one in the year 1992, there were only eight Hungarians and a German in the ethnic structure. Șinteu of the Apusenii Bihorului commune was 69,5% of the population from 1910

to 1930. One of the specificities of this joint is given by the very small number of Romanians, between 1910 and 1930 in the commune living only 10 Romanians. The second characteristic of the commune is given by the dominance of ethnic Slovaks, which after the Great Union until 1930 prospered by 71,1%. Migration flows have contributed almost to doubling the Slovak herd in just 12 years.

**Figure 6 - Demographic growth and decrease in the Apuseni Mountains (1910-1930)**



Source: Data source and own calculation based on data based on data from: Rotariu et al., 1999-2006; Manuilă, 1938.

### Demographic changes between 1930-1966

From 1930 to 1966 (Figure 7), the Apuseni Mountains depopulated with 1,1%, following the repercussions of the First World War, and then as a result of the beginning of the Second World War. The share of the population in the Apuseni Mountains in the demographical total of



Transylvania was the census of 1930, 18,5%, and at the national level of 3,3%.

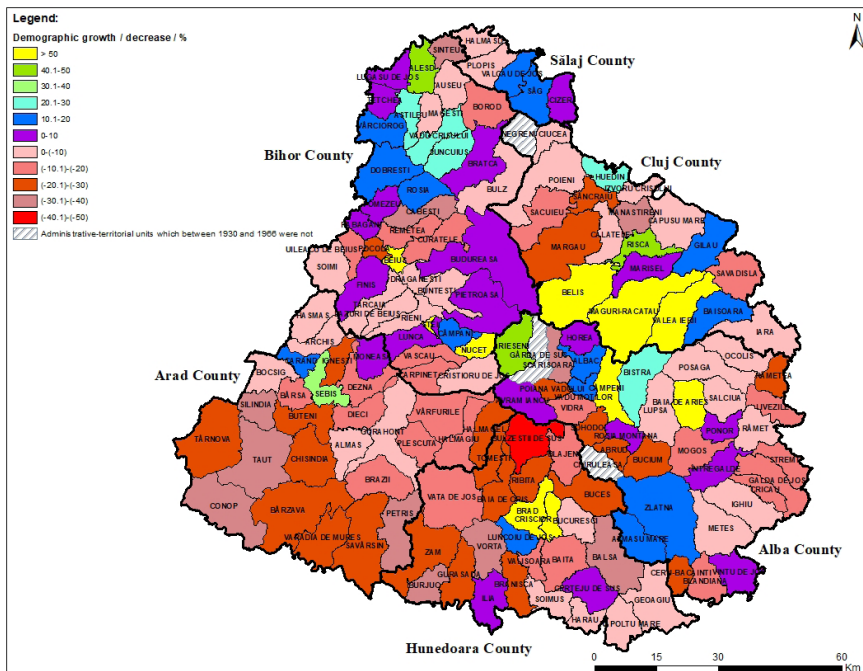
The Apuseni Mountains comprise the most varied physico-geographic elements, with internal depressions, marginal depression, hydrographic color and mountain heights present in the form of plateaus. The anthropic component initially occupied the lower areas of depression, and then spread to the valley, gradually reaching the high mountain areas of over 1.000 metres of the Apusenilor. After World War I, the population of the Apuseni Mountains intensified its agro-pastoral activities, leading progressively to the altimetric ascent of the population, from altitudes descended to high altitudes. Due to the morphology of the relief, internal depression and valley lanes could not sustain animal husbandry, and the climate was not favorable for plant culture. Thus, the demographic component in the depressions and the hydrographical lanes began the seasonal migration to the heights of Apusenilor, where the vegetable carpet allowed livestock to rise. Basically, we can say that this permanentization of settlements positioned at altitudes above 1.000 metres from the Apuseni Mountains, was a distortion of the seasonality of the animal husbandry regime. The population migrated to the highest altitudes in Apuseni, looking for places of grazing for animals, and in this way were the foundations of new settlements. We have identified about 14 villages in Apuseni, positioned at over 1.000 meters altitude, which occurred until the census in the year 1941: Bălcești, Cerc, Dealu Botii, Dealu Mare, Dealu Negru, Giurcuța de Sus, Lăpușești, Măguri, Mărișel, Muntele Filii, Muntele Rece, Plopi, Poiana Horea and Poiana Răchițelii. All these villages, preserved the continuity of the romanian traditional vetting, dispersed customs, the romanian tradition to the highest altitudes of the Apuseni Mountains. These villages will retain their continuity after the reforms of the 1954-1956 years, at which point the bodies of villages in Apuseni will expand in much greater numbers in the high mountain area of the Apuseni Mountains.

The largest demographic decline was recorded in Bulzeștii de Sus, due to the migratory phenomenon and new administrative reforms in the years 1954-1956. From the villages Bulzeștii de Sus, Grohot, Tomnatec other villages that have taken in their actual composition are larger or lower in the population. With the detachment and formation of new, effective populations migrated to other places which resulted in a high demographic decrease in the commune.

In practice, these administrative reforms after the establishment of the ethatist regime, have given a new administrative-territorial organization of the Apuseni Mountains, with the consent of new settlements. The settlement veterans increased numerically in the 1956 years, with a *habitat boom*, the population climbing at altitudes above 1.000 metres, looking for new grazing places, where they could carry out their ancient agro-pastoral activities. The 1956-1966 period is specific to the Apuseni Mountains, due to the spread of villages to the highest altitudes, by removing them from other villages, which for some villages led to demographic growth, and for others resulted in demographic decrease. The majority of these new villages were small in size with less than 500 inhabitants, predominantly between 200 and 300 inhabitants. In the 36 years, there were only nine administrative-territorial units in which the population recorded increases of over 50%. Șteiul was to record exponential demographic growth in the period 1930-1966, due to the mining exploitation that began immediately after the completion of the global conflagration and Romania's entry, implicitly the Apuseni Mountains under the *shadow governance* of The Soviet Union. The population of the city prospered by 881,9%, being the largest demographic growth recorded in the Apuseni Mountains area. Mining activities represented a magnet for the anthropic component, which led to the migration to the Ștei of many ethnicities that wished to work in mining. The romanian population prospered by 852,4% of 1930 to 1966, with an actual increase of 4.646 people. Following the Romanians, there were ethnic Hungarians who prospered from 25 in 1930 to 531 in 1966. Other ethnicities that have completed, the ethnic structure of the city during this period are: Germans (12), Ukrainians (11), Serbs (8) and Slovaks (5), all these ethnicities in 1930 completely lacking. Only the Jews decreased numerically from 16 people in 1930 to 10 in the year 1966. The second demographic growth in this period was Nucetului, which rose by 255,3%. The large increases of Nucetului were stepped on the same mining activities as the example of the city of Ștei. The demographic evolution of Nucetului was a fulminant in the period 1930-1956, when the number of Romanians increased from 702 people to 8.857 people in 1956. Also, the herd of Hungarians increased from 63 people, to 928 in 1956. On the basis of the two cities, Ștei and Nucet, they evolved demographical and other administrative units such as Baia de Arieș, Brad, Câmpeni and Crișcior. Beiușul evolved based on the emergence and consolidation of

the small industry incorporating agro-pastoral activities, the exploitation and processing of timber. The administrative-territorial units of Apusenii Clujului, Beliș, Măguri-Răcățău and Valea Ierii have evolved as a result of administrative restructuring by the socialist regime, through the entry into the administrative composition of new villages and demographic migrations from neighbouring communes to these municipalities in which they could easily deal with the exploitation forestry fund.

**Figure 7 - Demographic growth and decrease in the Apusenii Mountains (1930-1966)**



Source: Data source and own calculation based on data based on data from: Manuilă, 1938; NIS.

## Demographic changes between 1966-1992

From the census in the year 1966 to the last census of the 20th century, the one made in the year 1992 (Figure 8), the population of the Apuseni Mountains decreased by 15,8%, with an actual increase of 93.326 inhabitants. This period overlaps the communist era of Nicolae Ceaușescu, which resulted in a large policy of systematization of the rural area, wishing to encompass as much population as possible within and proximity of urban centres.

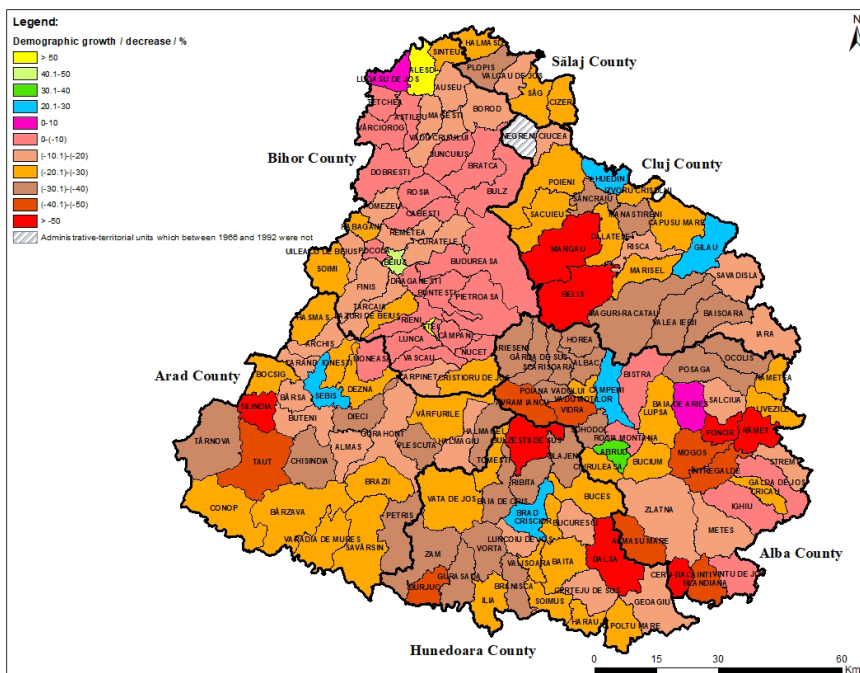
The systematization of the territory of the country and localities was carried out on the basis of the Romanian Communist Party's decision to forge the developed multilateral socialist society, contributing to the untending growth of the material and spiritual well-being of all work and to organise on a scientific, rational and harmonious basis, the framework in which the citizens of our homeland live and work. At the X-th Congress of the Romanian Communist Party and the National Conference in the year 1972, the main objectives and directions of the systematization of the territory and localities were established, aimed at ensuring the harmonious organization of the territory of the country, all administrative-territorial units, contribute to the rational and balanced distribution of production forces, organically combining economic and social efficiency criteria. It was also desirable to ensure the organisation and planning of cities and villages, in line with the general economic and social progress by restricting the building perimeter of localities to the bare necessities and the optimum use of their territory. The socialists tried to transform some rural localities with development prospects, urban economic and social centres, raising the whole economic, social and cultural activity of villages and gradually approaching the conditions villages from cities. (Law No. 58 of the year 1974)

The period 1966-1992, meant for the space of the Apuseni Mountains the continuity of demographic decline in the last period, but this time in slightly higher values. The decreases were based on the desire to destructuring the rural area, by reducing the total investment in the traditional mountain villages that are scattered throughout the Apuseni Mountains. This period is made noticeable by intensifying the urbanization phenomenon, especially in those cities where the economic potential was remarkable. The city of Ștei had the highest demographic

growth of 81%, positioning itself in the first place as in the previous period. It was followed by Aleşd with 71,4%, Beiuş with 41,2%, Abrud with 30,6%, Huedin with 27,1%, Sebiş with 26,2%, Câmpeni with 23,8%, Brad with 21,4%. Demographic gains have been made due to massive investment in the industrial sector, creating new jobs, and then these cities represent genuine demographic poles for people seeking employment. Many of those who have found jobs in the industrial sector in the cities with time have been definitively established, forming their families. Demographic flows in urban rural areas were intense during this period, two-way. In the first phase, the migration of the population took place at the level of the administrative unit, and in the second phase, migration occurred from other administrative units. Basically, the population was concentrated in the residence of the administrative unit, where the main institutions of the state (town hall, school, hospital) were located. The most eloquent example is the Câmpeni administrative-territorial unit, which was composed of 22 villages. The population of Câmpeni residence increased between 1966 and 1992 by 118,5%, from 2.610 inhabitants in 1966, to 5.704 inhabitants in 1992, resulting in a numerical increase of 3.094 inhabitants, and in the other villages the population declined continuously.

The most depopulated administrative unit in the period 1966-1992, was the common Bulzeştii de Sus from Apusenii Hunedoarei. Bulzeştii de Sus depopulated in the 26 years, not less than 70,1% of the population. The losses were made due to the emergence of new small villages in the composition of the commune, which entered in just a few years in the demographical regression. The most conclusive example, is the village of Ticera which in 1966 had 153 inhabitants, and in 1992 the demographical herd had reached only 13 inhabitants.

**Figure 8 - Demographic growth and decrease in the Apuseni Mountains (1966-1992)**

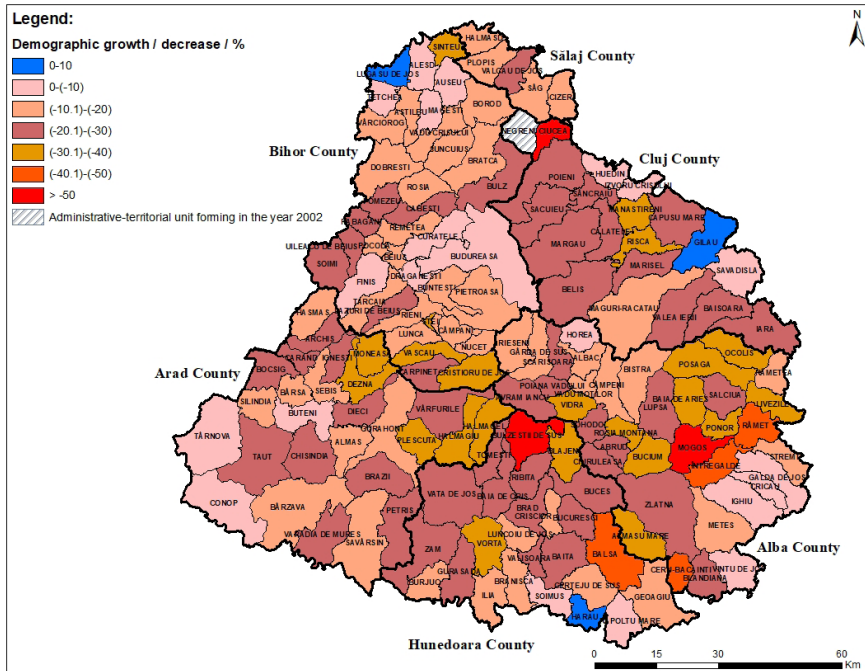


Source: Data source and own calculation based on data based on data from: M1S.

### Demographic changes between 1992-2011

The end of the 20th century meant the beginning of the most severe demographic decline cycle in the Apuseni Mountains (Figure 9). If in the previous period, the communist regime wanted the destructuring of the countryside and the deepening of urbanisation, during this period the population of the entire space of the mountains began to migrate outside the Apuseni Mountains. The lack of investment in rural areas has made the young population feel it and perceive it as a restrictive environment, where the possibilities of finding a job and having a good standard of living do not exist. The intensification and development of the communist industry began to progressively disintegrate after the Revolution of the year 1989. The wide process of urbanization of the Apuseni Mountains, beginning

in the previous period, based on the amplification of the industrial sector, would encounter major dysfunctions due to massive restructuring. The deficiency of cities , functionality has led to the migration of the population to other cities or outside the country, in search of jobs. From the census of 1992 to the year 2011, there were only three administrative-territorial units in the Apuseni Mountains that recorded demographic growth. The municipality of Lugașu de Jos in the Apusenii Bihorului registered 8,9% increase, the commune of Hărău in Apusenii Hunedoarei had an increase of 8,7% and the municipality of Gilău in the Apusenii Clujului had 4,1%. Basically, these three municipalities, through their geographic position, form a rising demographic triangle of the Apuseni Mountains from 1992-2011. At the opposite pole, we identified three municipalities in which demographic decreases had the highest values. Ciucea in the Apusenii Clujului had the highest demographic decrease of 67,5%, but it is based on administrative reforms. The demographic decline took place in the year 2002, when a referendum was made for the formation of Negreni commune. After the election was validated, Negreni was detached from Ciucea, who took in his administration the village of Negreni, Prelucele and Bucea, which until that time were an integral part of Ciucea commune. The following two communes, Mogoș and Bulzești de Sus, were heavily depopulated during this period, with 52,3% respectively with 51,7%. At the census in the year 2011, Bulzești de Sus had eight villages in the administration, and the population was 271 inhabitants, being the smallest administrative unit in the Apuseni Mountains as a demographical fact. The municipality of Mogoș consisted of 21 villages, together with 731 inhabitants, of which three villages had less than 10 inhabitants (Bocești 7 inhabitants, Negrești 9 inhabitants, Oncești 4 inhabitants). The absence of the young population preceded the emergence of demographic ageing, and then depopulation. Basically, these two phenomena of demographic and depopulation ageing manifest themselves in the entire area of the Apuseni Mountains with higher or lower intensities from one administrative unit to another.

**Figure 9 - Demographic growth and decrease in the Apuseni Mountains (1992-2011)**

Source: Data source and own calculation based on data based on data from: NIS.

## Conclusions

Between 1850-2011, demographic changes in the population evolution in the Apuseni Mountains had various causes. One of the most important causes relates to the mining activities that represented the economic engine of the Apuseni Mountains. The exploitation of the resources in the basement represented the demographic, but not only. There were times when investments in the mining sector were minimal and periods in which the investments were numerous. However, I noticed that even in those periods when the amounts invested were lower, the population prospered. This shows that the population of the Apuseni Mountains was mostly occupied in the mining industry, being the main economic activity that people knew doing best. The demographic evolution



was influenced by the administrative reforms made by the authorities, which imposed new settlements by separating from the other settlement. Moreover, the socialist regime has greatly influenced the destructuring of the rural area of the Apuseni Mountains by the desire to accentuate the phenomenon of urbanization. Jobs were numerous in cities, and they would disappear progressively after the year 1989. If during the communist period, the rural population was forced to migrate to cities after the Revolution of 1989, the population of the entire space began to migrate. The end of communism led to the beginning of a cycle of depopulation of the Apuseni Mountains, due to the lack of investment and the lack of concern of the authorities. Unfortunately, the capitalist period imposed the population in the entire area of the Apuseni Mountains to migrate, due to lack of employment, due to lack of transport routes and others.

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