

THE NATURAL DYNAMICS OF THE RURAL POPULATION IN APUSENI MOUNTAINS (2011 CENSUS)

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Abstract: The article aims to study the natural dynamics of the rural population in the Apuseni Mountains at the last census in 2011. From the website of the National Institute of Statistics, data were acquired and then processed with the programs Microsoft Excel 2013 and Arc Gis version 10.3. After processing, a series of new data was produced, with graphs and maps being produced. This study showed that the rural population in the Apuseni Mountains is experiencing higher mortality rates than birth rates. Consequently, natural growth has low and rising values for most of rural areas.

Key words: natural dynamics, rural population, Apuseni Mountains,

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INTRODUCTION

The article aims to study the natural dynamics of the population in the rural area of the Apuseni Mountains at the last census in 2011. Three demographic indicators, such as natality, mortality and natural growth, have been taken into account. Their territorial distribution was monitored at the level of the rural population. This article complements another article (Lung and Gligor, 2018), where the natural and migratory dynamics of the urban population of the Apuseni Mountains have been studied. It is necessary to complete the research of this mountainous area started on the urban space, with the extension to the rural space. The Apuseni Mountains spread across six counties (Alba, Arad, Bihor, Cluj, Hunedoara, Sălaj). The rural area consists of 140 territorial-administrative units, which are more or less equally deployed in the territory of the six counties. Rural diversity is given by the geographical positioning of villages at different altitudes, influencing the emergence and diversification of certain forms of settled settlements specific to the Apuseni Mountains. Due to the millenary history of the popularity of these mountains, they have represented and continue to be the subject of study for various scientific fields. Geographically,

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the Apuseni Mountains have been in the attention of a large number of researchers who have approached various topics (Arghiuș, 2007; Cocean, 2000; Constantin, 2011; Gaceu and Herman, 2010; Herman and Benchiș, 2017; Ilieș et al., 2010; Tătar and Ganea, 2004; Herman, 2013; Jurca, 1998; Petrea, 2004; Surd et al., 2007; Surd et al., 2017). There have been sociological studies on the Apuseni (Totelecan, 2003; Buțiu, 2004). All these researches encompass the entire area of the Apuseni Mountains or only a part. In other studies, the Apuseni Mountains were included in systems affected by "functional ruptures" (Ianoș, 2004, p. 67) or as a "disadvantaged area" (Câdea et al., 2006, p. 93). Dragan (2011, p. 5) included the Apuseni Mountains "peripheral areas", and Mureșan (2016, p. 171) in the category of "critical regions".

Population, through natural, migratory dynamics and other perspectives, is studied throughout the world, being a subject of research for many scientific fields (Attané and Barbieri, 2009; Barakat, 2015; Dellapergola, 2001; Franke and Kulu, 2018; Jani, 2018; Keating et al., 2011; Stupariu et al., 2018).

METHODOLOGY

Statistical data was used to perform the study. The numerical data of newborns and deaths were procured from the website of the National Institute of Statistics. After obtaining the numerical data, they were processed through Microsoft Excel 2013, which resulted in the demographic indicators analyzed. The values of the obtained rates were introduced in the Arc Gis version 10.3 program, with maps of natality, mortality and natural growth rates in the rural area of the Apuseni Mountains. For 2011, numerical data on demographic evolution were obtained and a chart was produced.

RESULTS AND DISCUSSIONS

NUMERICAL EVOLUTION OF POPULATION

The rural population of the Apuseni Mountains in 2011 was 319,159 inhabitants. The most populous were the Bihor Apuseni with the largest number of communes, 34. Following are the Albei Apuseni, containing 33 communes, but the number of inhabitants visibly smaller than their predecessors. The smallest number of communes have Sălaj Apuseni, which have the lowest number of inhabitants in the five administrative units. The differences of administrative units are not large between the Cluj Apuseni (19), the Hunedoara Apuseni (23) and the Arad Apuseni (26) (figure 1).

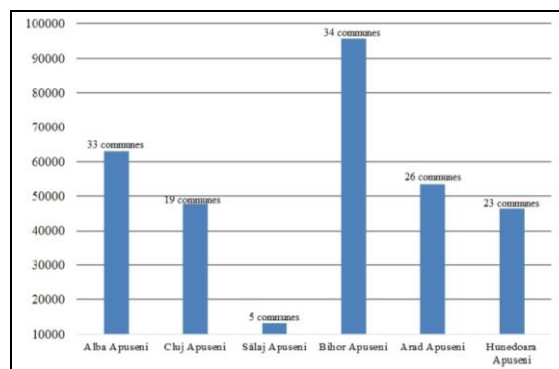


Figure 1. Numerical evolution of the population
(Source: data processed after the NIS)

Also, the demographic population is distributed in parallel with the number of communes without significant values between the three parts.

NUMERICAL EVOLUTION OF NEWBORNS AND BIRTH RATES

In 2011, 2,559 newborns were registered in the rural area of the Apuseni, representing less than 1% (0.8%) of the total rural population and 2.5% of the total urban population. From figure 2 we can see that the largest share of newborns was in the Bihor Apuseni with 896 births (35%). The second weight was 19% in the Alps where 475 were born. The Arad Apuseni and Cluj Apuseni had near 15% (395 births) and 14% (365 births). The last two weights came to the Hunedoarei Apuseni with 11% (270 births) and the lowest share was 6% in the Sălaj Apuseni, where 158 were born. We can say that the distribution of the offspring between the six parts of the Apuseni did not have great values apart from each other, except for the maximum value that visibly detached. Of the Albei Apuseni, the highest number of births in 2011 was in Vințu de Jos with 51 newborns. On the opposite side, there were two communes of Ocoliș and Ponor where only one child was born on the commune. In the Cluj Apuseni, the largest number of newborns was in Gilau commune (100). It is the maximum recorded in the rural area by a rural administrative unit in 2011. Beliș is placed with the lowest number of births, 5. Vâlcău de Jos from Sălaj Apuseni was ranked first with 42 births, and the lowest value of 22 was in Cizer. In Bihor Apuseni dominated Dobrești with 79 births, while two communes Șinteu and Carpinet each had five births. Târnova ranked first in the Arad's Apuseni with 65, and Ignești recorded three newborns. The situation is more balanced in the Hunedoara Apuseni, where the highest values were 28 in Băița and Ilia, and the lowest value was in Bulzești de Sus with only a newborn in 2011. The difference in the whole rural area between the highest and the lowest is 99 births.

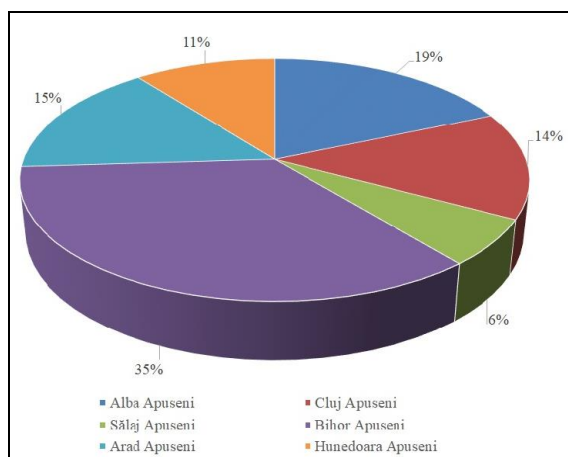


Figure 2. The percentage of the born in the rural area of the Apuseni Mountains
(Source: data processed after the NIS)

Rural natality rates in the Apuseni Mountains are not among the highest. On the whole, only three villages have higher rates between 15.1-20 (Lugașu de Jos 18.4 ‰, Budureasa 15.5 ‰, Conop 15.1 ‰), the first two from the Bihor Apuseni and the last from the Arad Apuseni. 31 communes have birth rates with

values between 1-5 ‰, and the absolute minimum in the whole rural area is 1.6 ‰ in Ocoliș from the Albei Apuseni. 19 administrative units have rates ranging from 10.1 to 15 ‰ and the remaining 87 have rates between 5.1 and 10 ‰. 62.1% of rural space has birth rates between 5.1-10 ‰. These rates are evenly distributed within the Apuseni Mountains, and the highest number of rates between 1-5 ‰ are distributed in the territory of the Arad, Hunedoara and Alba Apuseni (figure 3).

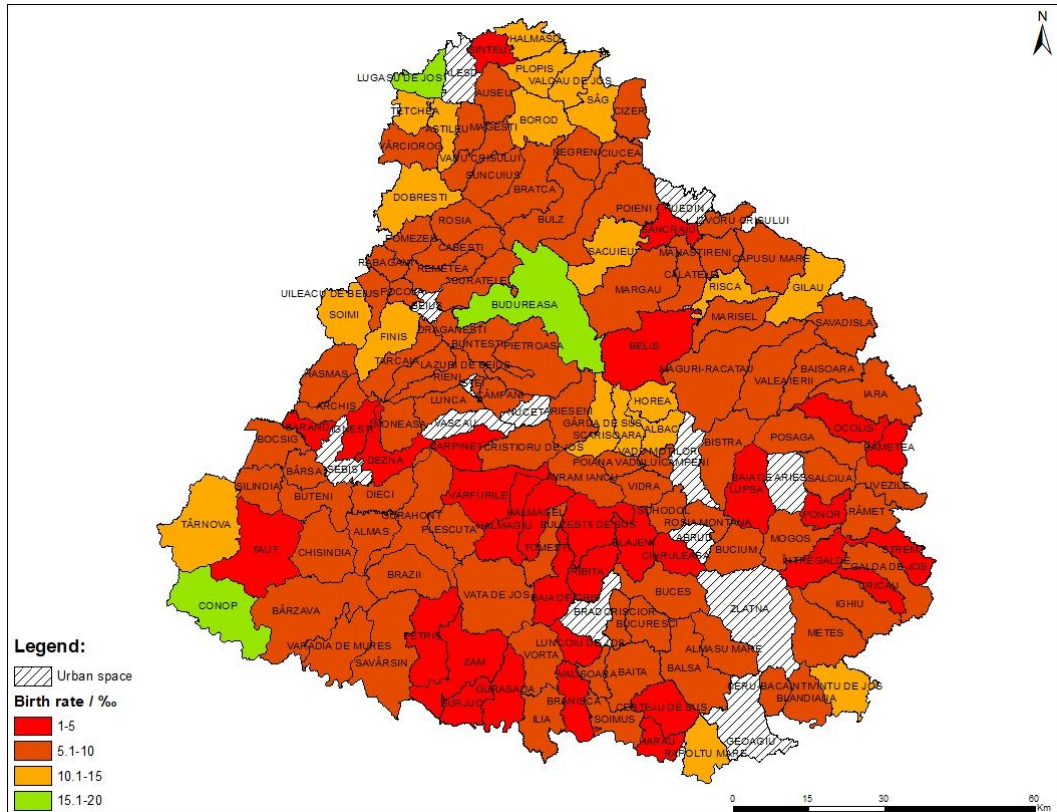


Figure 3. Distribution of birth rates in the rural area of the Apuseni Mountains
(Source: data processed after the NIS)

NUMERICAL EVOLUTION OF DEATHS AND MORTALITY RATES

The number of deaths in 2011 was 5,123. In the Bihor Apuseni, most deaths were recorded, reaching 1,440 and a weight of 28%. On the second place were the Albei Apuseni with 982 deaths, followed not far from the Arad Apuseni by 944. There were 807 deaths in the Hunedoarei Apuseni (16%), 778 deaths in the Cluj Apuseni (15%), and the minimum was 172 (3%) in the Sălaj Apuseni (figure 4). In the Albei Apuseni, the highest number of deaths was in Ighiu, where there were 79 deaths. The smallest number was only four deaths in Ceru-Bacănti. There were three more communes that had the number of deceased persons under 10 (Ponor and Blandiana 9, Ocoliș 8). The Cluj Apuseni had the highest value of 83 deaths in Poieni, and the lowest value of 13 in the Iara Valley. The commune of Gilău was very close to maximum, registering 82 deaths. In the village of Săg the number of deceased persons was 48, representing the highest number of Sălaj Apuseni. In Plopiș the minimum was

23. The maximum in the Bihor Apuseni, but also in the entire rural area of the Apuseni Mountains was in Bratca with 85 deaths. In Şinteiu there were only 17 deaths. Târnova ranked first with the most deaths in the Arad Apuseni with 77. Ignesti was the only commune in this territory that had less than ten deaths, 8. From Hunedoara Apuseni, Băiţa was the one who had 70 deceased people. There were two small values below 10 in the commune of Ribîţa with 7 deaths and the lowest in Bulzeştii de Sus with only three deaths. The difference between the highest and the smallest value of people leaving the system was 82.

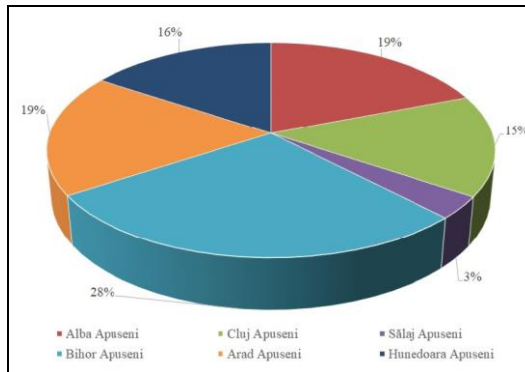


Figure 4. The percentage of deaths in the rural area of the Apuseni Mountains (Source: data processed after the NIS)

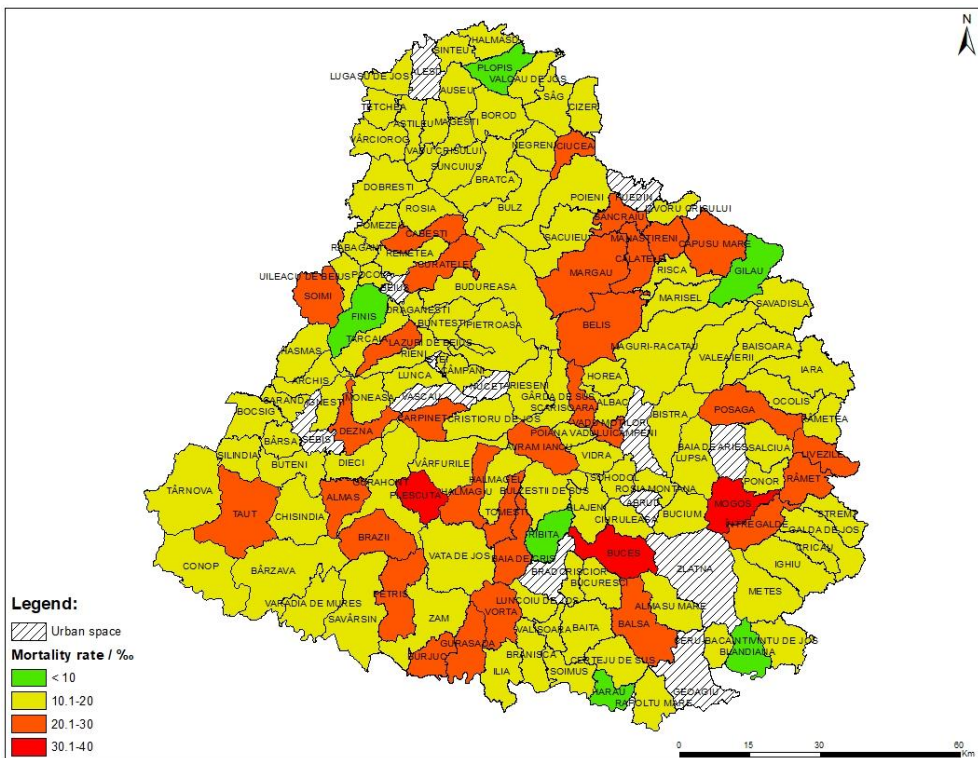


Figure 5. Distribution of mortality rates in the rural area of the Apuseni Mountains (Source: data processed after the NIS)

Mortality rates are dominated by values ranging from 10.1 to 20 ‰, comprising 101 communities with a 72% share. These values are spread across the entire rural area of the Apuseni Mountains. The values of rates ranging from 20.1 to 30 ‰ are the most abundant ones, accounting for 30 administrative units with a weight of 22%. The Sălaj Apuseni are the only ones where there is no mortality rate higher than 20.1 ‰. The smallest mortality rates below <10 have been recorded in six communes (Ribîța 5.2‰, Hărău 5.4‰, Feniș 9.2‰, Plopiș 9.6‰, Blandiana 9.8‰, Gilău 9.9‰) with a weight of 6%. The minimum mortality rate in the entire rural area of the Apuseni Mountains was recorded in the Apuseni Mountains (Ribîța commune). Maximum mortality rates were in three communes, where rates were between 30.1-40 ‰. However, the weight of these extreme values is only 2%. The highest rate of 30.6 ‰ was in Buceș commune in Hunedoara Apuseni, followed by Pleșcuța commune from Aradului Apuseni with a rate of 30.4 ‰ and Mogoș commune from Albei Apuseni at a rate of 30.1 ‰ (figure 5).

DISTRIBUTION OF NATURAL GROWTH RATES

Natural growth is a demographic indicator of great importance because it is the difference between system inputs and outputs in the system. The rural population of the Apuseni Mountains registered low values of the natural increase in the 2011 census.

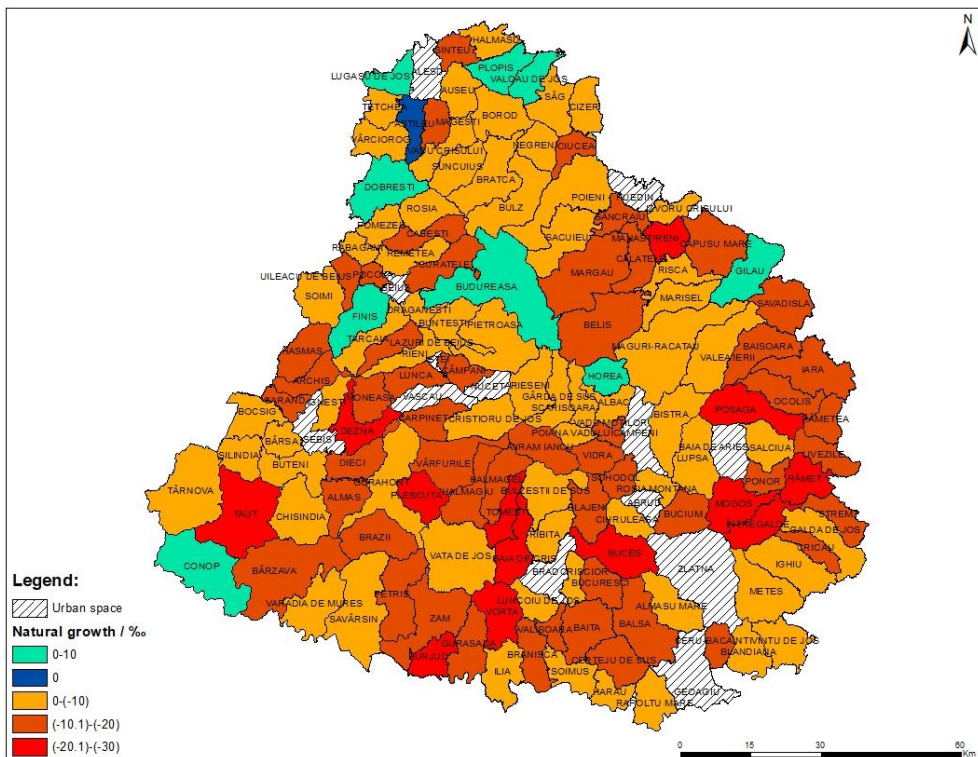


Figure 6. Distribution of natural growth in the rural area of the Apuseni Mountains (Source: data processed after the NIS)

Only 7.1% of rural space had positive or stagnant levels of natural growth. Only nine administrative units (Horea 0.5‰, Conop 0.9‰, Gilău 2.2‰,

Budureasa 2.3‰, Dobrești 2.7‰, Vâlcău de Jos 2.8‰, Plopiș 3.3‰, Finiș 5.2‰, Lugașu de Jos 7.8‰) had positive natural growth. Most rates are between 0-(-10) totaling 66 communes and a weight of 47%. There are rates between (-10.1)-(-20) that comprise 51 communes with a weight of 37%. There are 13 administrative units that recorded values of the natural increase between (-20.1)-(-30). So they are: Pleșcuța -20.5‰, Mănăstireni -20.9‰, Tomești -21.4‰, Vorța -21.7‰, Baia de Criș -21.8‰, Întregalde -22.5‰, Poșaga -22.9‰, Tăuț -23‰, Buceș -23.5‰, Burjuc -24.1‰, Râmeț -24.4‰, Mogoș -24.6‰, Dezna -25.9‰). In the 13 communes, natural growth shows the lowest values in the entire rural area of the Apuseni Mountains. They are confronted with an offensive depopulation phenomenon. The number of births is considerably lower than the number of deaths. The most balanced community is Aștileu, which had in 2011 a total of 40 births and 40 deaths, which placed it as the only commune in the Apuseni Mountains with the value of natural growth 0 (figure 6).

CONCLUSIONS

The rural population in the Apuseni Mountains is in a continuous dynamic. Unfortunately, system exits are higher than system entries, so mortality is higher than birth rates. As a result of the decrease of the two indicators, negative natural increase resulted for 130 administrative units, for 9 natural positive natural spores and one common with spor. We can say that the rural population is constantly decreasing, which requires the continuity of the demographic risk phenomena. The depopulation of rural areas is increasing, which leads to the raising of the negative values of natural growth.

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