

DEMOGRAPHIC RISKS IN MOȚILOR LAND

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ABSTRACT. - **Demographic Risks in “Moților Land”.** The scientific study at hand takes a look at the changes in demography over the last 30 years in the ethnographic region of “Moților Land” trying to establish if a balance has been reached. There are several important demographic risks that affect this region. First, there is the rapid depopulation of the area that was triggered by three factors: by the isolation of the people in the “Moților Land” which was amplified during the 1990s after the destruction of the railway that connected Câmpeni with the periphery of the mountain zone, by the economic crisis experienced by the region due to the collapse of the mining activities and not the least by the lack in many localities of minimal utilities like schools, commercial units, electricity, telephone lines, fact due especially to the numerous settlements per commune and to the difficult mountainous terrain. Other important risk factors are the demographic aging and the feminization of the population. These are the result of the continuous reduction of birth rate over a long period of time and of the previous migrations, especially after the 1966 when numerous people, especially young males, left the mountain villages for the cities where jobs became available due to the intense industrial development during the 1970s and 1980s in Romania.

Keywords: “Moților Land”, demographic risks, depopulation, feminisation, ageing, birth rate, mortality.

1. INTRODUCTION

What are the demographic risks?

Law no. 575/2001 on PATN defines risk as "a mathematical estimate of the probability of human and material losses over a future reference period and in a given area for a certain type of disaster" (J. Benedek, E. Schulz, 2003).

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Generally speaking, the notion of risk “implies a reference to the negative consequence of an action or a behaviour, individually and collectively” (T. Rotariu, 2004). According to J. Benedek, risk is presented in two ways: it expresses both the likelihood of harm and the specific human behaviours related to risk prevention and harm management.

Demographic risks refer to those events that take place over long periods of time and can endanger both the existence of smaller groups of people (family, population of a village, city, region) and society as a whole.

In what regards the demographic risks in Moșilor Land, they are typical for isolated mountain regions, poorly developed from an economic point of view: mass migration, especially of youth, aging population, degradation of social relations through feminization of the population, singularity, divorce, etc. the increase in illiteracy due to the reduction of the number of schools, especially those in small and isolated villages, etc.

The region that is the object of this work extends in the central area of the Apuseni Mountains and includes the network of rural settlements located in the upper basin of the Arieș from Bistra upstream.

The first to correctly delimit the area of Moșilor Land was the well-known ethnographer Tache Papahagi, who states that “The Land of Moși starts from Abrud, from Cărpiniș above, and from towards Ofenbaia (today Baia de Arieș) from Bistra”, so including in Moșilor Land the mining area of Abrud. Basically, he argues ethnographically in his work “Research in the Apuseni Mountains” that Moși “can be subdivided into two classes: the “real” Moși, who deal more with the wood industry, and “Băieși”, the miners, in the immediate vicinity of Abrud”.

The studied region comprises 322 settlements and covers the whole north-west part of the Alba County, over 1068.89 km² with a population of 38397 inhabitants (2020).

Câmpeni with 7375 inhabitants and Abrud with 5248 are the only towns in the region. The rural settlements with a population of 25774 people, are comprised in 14 communes²: Albac, Arieșeni, Avram Iancu, Bistra, Bucium, Ciuruleasa, Gârda de Sus, Horea, Poiana Vadului, Roșia Montană, Scărișoara, Sohodol, Vadu Moșilor and Vidra. Demographically, the region has been plagued by continuous depopulation throughout the last fifty years which has led to the aging and feminization of the population and to a high dependency rate.

² *Commune = the smallest administrative unit in Romania, usually comprising several villages.*

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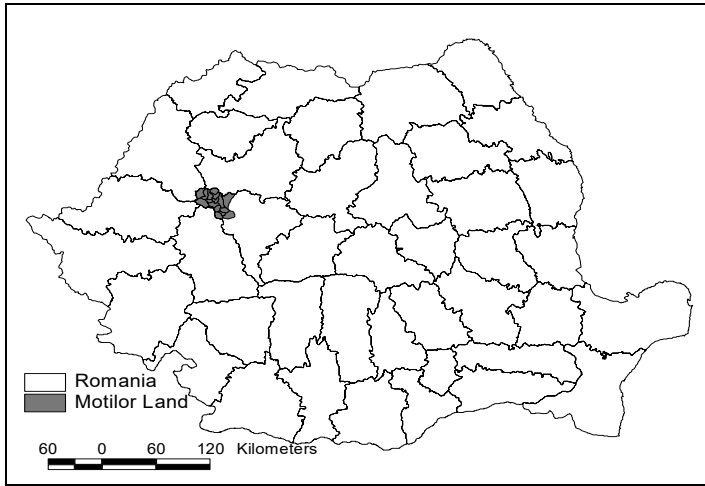


Fig. 1. The Location of “Motilor Land” within the National Territory

2. MATERIALS AND METHODS

This paper was elaborated following the information gathered from the censuses of 1900, 1910, 1930, 1941, 1956, 1966, 1977, 1992, 2002, and 2011, and for 2020 from the documents of the Alba statistical service, from the documents of the town halls, from the bibliographic sources and from the questionnaires applied in the field and aims to issue a diagnosis that reproduces as accurately as possible the current state of the human component and habitat elements in the Motilor Land. A wide range of methods specific to both human geography, sociology and mapping were used in the processing of the collected data. The analysis was performed mostly at the level of territorial administrative units, respectively of the 14 communes and 2 cities, and for detailing, where required, the analysis was performed at locality level (322 in total).

Any indicator that deviates from the rule of "normality" signals in specific forms the imminence of the appearance or existence of a state of risk. In the case of our study, the following indicators were taken into account:

1. Birth rate
2. Mortality
3. Migration
4. Feminization index (number of women per 100 men).
5. The share of the aging population
6. Demographic aging index
7. The share of the young population in the total population
8. The dependency rate

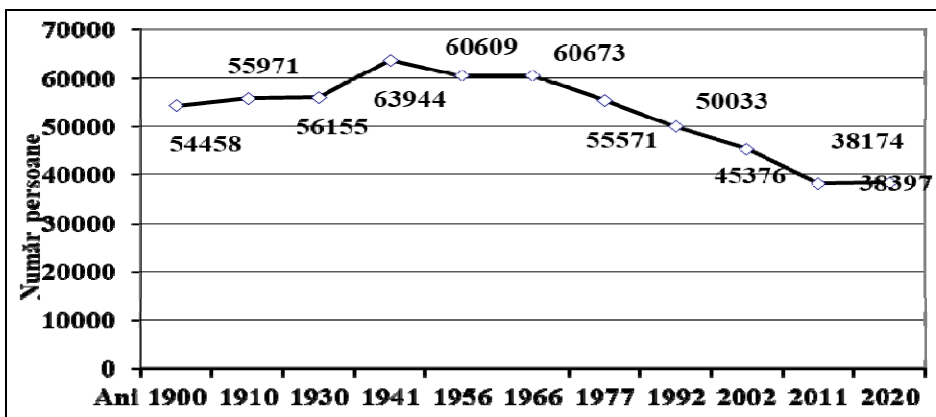
3. RESULTS AND DISCUSSIONS

3.1. General aspects of demography and settlements in the Land of the Moți

The demographic behaviour of the population of Moșilor Land changed significantly during the 20th century depending on a series of events of national or international importance. In chronological order they would be: between 1914 and 1919, the First World War, in 1918 the Great Union, between 1941 and 1944 the Second World War, 1947-1989 the communist regime, 1968 the prohibition of abortions, since 1990 the liberalization of abortions, the restoration of democracy, economic restructuring with the closure of many factories and mines, the opening of borders to the west, and more recently, in 2007, the elimination of visas for Romanian citizens with Romania's accession to the European Union.

Studying the evolution of the population between 1900 and 2020, it can be divided into two periods with different demographic behaviour: the period before 1941, when the region's population was on an upward trend reaching a maximum of 63944 in 1941 (exception is the period of World War I, when the region has significant population reductions, about 9092 people) and the period 1941-2020 when the area has entered a sharp downward trend reaching 38397 people in 2020, which is well below the level of the beginning of the century, of 54458 people in 1900.

Table 1. The demographic evolution in Moșilor Land from 1900 to 2020



Data source: The National Institute of Statistics

Overall, the demographic potential of a settlement in this area is of 119.24 inhabitants / settlement, but if we disregard the two cities and their localities, the potential decreases to 87.7 inhabitants / settlement and 1841 inhabitants / commune, respectively. Taking into consideration this indicator, the villages belong mostly to the category of small villages under 500 inhabitants and less in the category of the lower middle ones of 500-1000 inhabitants (Scărișoara, Albac) and the upper middle ones of 1000-1500 inhabitants, of which only Bistra and Roșia Montană are part. There are also villages in the category of the very small ones with less than 100 inhabitants which, due to their more isolated location and the lack of minimum facilities, have given most of the emigrants in time. The very small villages are practically endangered villages because they have lost an important stock of the population, many of them housing only a few families. This is the case, among many others, of the villages of Poieni, Vâlcești, Hărăști, Gligorești, Dosu Văsești, Bordești-Poieni from Vidra commune, which have a maximum of 20 people living permanently in each of them.

3.2. Demographic risks in Moților Land

a. Depopulation of the Moților Land

In the depopulation of Moților Land, in addition to the negative natural balance that has characterized the region in the last 30 years, the phenomenon of emigration of the population from the area to urban areas outside the Apuseni Mountains was also decisive.

The negative *natural balance* is mainly due to the decrease in birth rates as a result of the emigration of the female contingent between 15-49 years to urban areas but also as a result of the liberalization of abortion and the spread of contraceptive practices after 1990. Birth rate represents the number of live births per 1000 inhabitants during a given period of time (year, semester, month, etc.) compared to the average number of the population of a territory or locality.

If in 1977, the average birth rate was 15.1 live births per 1000 inhabitants, in 1996 it reached an average of 13.2 live births per 1000 inhabitants. Later the decrease in the birth rate has been much more drastic, reaching 6.48 ‰ in 2020 with 6.64‰ in Câmpeni and 4.1‰ in Abrud. The smallest birth rate in 2020 is in Arieșeni with 3.10‰ and the highest is in Poiana Vadului with 9,46‰.

Another particularly important indicator in terms of population evolution is *mortality*, which is defined as the number of deaths per 1000 inhabitants during a given period of time (year, semester, month, etc.) compared to the

average population of a territory or locality. The average mortality in the area in 2020 is 14.45‰, with the highest value found in Gârda de Sus 21.26‰ and Horea 20.27‰ and the lowest values in Poiana Vadului 8.51‰ and Roșia Montană 9.84‰.

Unlike births and deaths, which are both natural and social processes, *migration* is an entirely social event: its causes and consequences are both social in nature.

Among the basic causes that generated a strong emigration was in a first phase an overcrowding, due to the strong population growth until around 1956, and then, in a second phase, the industrialization of Romania since the 1970s which created a strong demand for labour outside the area. The maximum intensity of the emigration phenomenon occurred between 1973 and 1982. In 1977 a migration rate of -25.37 ‰ was registered. High values of this index record the migration from the region also immediately after 1990, so in 1992 is significantly lower (-0.05‰) due to an aging population, as it is well known that migration occurs mainly in the young population, but also due to the pandemic situation of 2020 when movement was significantly limited.

There are other causes that have generated this process of depopulation accentuated especially in the last 30 years: the weak agricultural potential of the land, harsh climatic conditions, land configuration, working methods used, poor quality of roads, all generating a low level of the living standards of the inhabitants. To these, we can add what Jonathan Power said about the causes of depopulation: “the backwardness of the village in terms of the level of civilization and culture; awareness among rural people and farmers of what the city means, of the differences between their living environment and the urban environment; accentuating the feeling of frustration as he comes in contact with the city, its living standards, etc. As long as the rural people did not move from their villages and did not know the urban life, they did not raise the issue of abandoning their places of origin. Becoming aware of the existence of another social environment and especially of the advantages it offers (economic, cultural, social affirmation, etc.), rural people become potential migrants, waiting only for the opportunity to actually migrate to other, more favourable areas” (after N. Popa, 2000). In conclusion, a great importance in initiating the migration process is due to the difficult living conditions and especially to the awareness of the urban advantages, which is achieved especially during the process of higher education of young people in urban areas.

The strong migration of the young population almost led to the disappearance of some villages. This is the case of the villages of Hărăști and Poieni in Vidra commune, which ended up having 5-6 households from 100 households in the past. Considering the typical evolution of the depopulation

of a village, we can say that the critical point of rural-urban migration is reached when there is a loss of general school and especially primary school (due to lack of teachers or even insufficient children to form classes). Thus, at the level of Sohodol commune with a population of 1687, in 2020 there are enrolled 18 children in kindergarten, 27 primary grade students and 25 in the fifth to eight grade class so a total of only 70 pupils, while in Bucium there are only 68. It is expected that their number will decrease continuously, so that in ten years the students will be too few to justify the existence of a school.

Regarding the consequences of migration on the movement of the population, they are not limited to the depopulation of the territory by leaving it and changing their home. The selective loss, through migration, in general of the young population, affects, as we have seen, the birth rate, which generates a demographic aging and an accentuated feminization, ultimately influencing mortality. Basically, the vitality of the most affected localities is reduced, eventually reaching their disappearance.

b. Aging population

We are talking about an aging population in those communities where the share of the elderly population (over 60 years) increases significantly in the age group structure of those populations.

In the case of Moților Land, the phenomenon of demographic aging affects all the localities in this region. The main factors that determined this process are: as we mentioned before, the decrease in births, especially in the last 30 years, the aftermath of the liberalization of abortions, the spread of contraceptive practices, the economic crisis generated by demographic transition, the migration to urban areas, especially of the young population contingent, both in the recent period and in the period of Romania's industrialization in the 1970s and 1980s and also some improvement in the area of the health system that led to the prolongation of life expectancy.

The high share of the population over 60 years old present in the age structure of the communes in Moților Land shows us a situation in which the in the area. The average of the region for 2020 is of 24.34%, well above the threshold. The lowest numbers we find in Bistra 20.63% while the highest is in Bucium with 31.91%. For a clearer image of the situation we can divide the administrative units in three categories: under 25% in Abrud, Câmpeni, Albac, Bistra, Horea, Poiana Vadului and Roșia Montană; between 25 and 30% in Arieșeni, Avram Iancu, Ciuruleasa, Gârda de Sus, Scărișoara, Sohodol, Bistra, Vidra and above 30% in Bucium.

The demographic aging index calculated by the formula

$$I = \frac{P \geq 60}{P \leq 14} * 100,$$

further shows the high degree of the aging of the population. The average for the area is 198.8%, while the highest is again in Bucium with 433.3% and the lowest, 143.9%, in Poiana Vadului. Very high values are also found in Sohodol 242.8% and in Arieșeni 248.5%, which indicate that the viability of these settlements is under significant threat for the next 10 years.

In contrast to the increase in the share of the elderly population, the *share of the young population* is in a continuous and accelerated decrease. In none of the administrative unit in the Moșilor Land, the share of the young population (<14 years) exceeds 25% of the total population, the average being in fact 11.9%. The situation in the area is critical in the vast majority of settlements. The share of the young population is the lowest, 7.4%, in Bucium followed close by Abrud with 9.7% and going up to 15.8% in Scărișoara, 14.1% in Albac, 14.9% in Poiana Vadului, the first presenting a better situation in the region due to the presence of Roma communities. Poiana Vadului has a more special demographic behaviour: the population remained in the area despite the isolation of the Neagra valley, due to the attachment to the village but especially because the locals did not have even the minimum resources to migrate to urban areas.

The risks induced by the aging population have an effect on both the economic and the social dimension in the area. The region's economy is affected by the reduction of the employment potential and by the accentuated increase of the *economic dependency index* calculated as a ratio between the sum of the young population under 15 years old and those over 60 years and the population between 15 and 59 years old (supposed to be active).

$$(D_r) = \frac{P \leq 14 + P \geq 60}{P(14 - 59 \text{ years})} * 100$$

In Moșilor Land the economic dependence reaches high values in all the communes, the average in the area being 57.3%. 7 of the 14 studied communes have values over 61%: Sohodol, Vidra, Gârda de Sus, Ciuruleasa, Avram Iancu, Bucium, and Scărișoara that has the highest dependency index of 73.6%. The lowest levels for the area are found in Abrud, 49.3%, and in Bistra with 50.3%.

c. Feminization of the population

The feminization index of the population presents the ratio between the number of women and men. Given the predominance of rural and primary sector - specific jobs, appropriate to men 's efforts, a higher number of women, compared to 100 men, usually indicates an unfavourable situation.

The phenomenon of *feminization of the population* (the number of women per 100 men) is also characterized by high values, between 100-110% in Câmpeni, Abrud, Bucium, Ciuruleasa and Gârda de Sus, while the average for the region is 97.86%. The high rates of this index are mainly due to the high share of women over 60 in the elderly population group that is 84.7% for the region. There are values of 87.4% in Avram Iancu and 76.8% in Horea which are the highest in the area while the lowest can be found in Abrud, 65.9%. The high number of elderly women is the result of two important processes: selective migration to cities, especially young men since 1967, and longer life expectancy in women due to higher mortality in the male population as a result of their hard work in this mountainous space.

4. CONCLUSIONS

In conclusion, in this study we wanted to see if the effects of changes that cause deviations from normality in the demographic structure of the population of Moților Land are still felt over the past 30 years, if there was any positive change since 1990 until today. The results show that the effects of rural exodus during the 1970s and 1980s years of industrialization and in the 1990s with the closing of the mines, continue to be felt strongly today in the aging of the population and in the high degree of feminization in most rural areas, in the high dependency rate, in the very low birth rates and in the increase in mortality. All these phenomena are considered demographic risks because over time they have led to a decrease in the viability of the affected settlements, many of them, especially the most isolated ones, being on the verge of extinction.

As a result, we can conclude that Moților Land has developed a regional dynamic typical of disadvantaged areas, which is called by Nicolae Popa "vicious circle of underdevelopment" and which affects the socio-economic and cultural aspects leading to erosion of regional identity by accelerating the exodus and increasing disorganization of communities and alienation of inhabitants. In turn, these phenomena accentuate the economic regression and cultural marginality of the area, which will eventually lead to a degradation of the cultural and ecological heritage of the Moților Land and even to an erosion of the vitality of the population that has not left the region. Therefore, effective measures for economic development and improvement of the communication system are an absolute necessity as means to retain population in the area.

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