

## THE DEMOGRAPHIC PROFILE OF THE URBAN SETTLEMENTS IN THE MOUNTAINOUS DISADVANTAGED AREA OF OLTENIA

### PROFILUL DEMOGRAFIC AL ORAȘELOR DIN ZONA MONTANĂ DEFAVORIZATĂ A OLTENIEI

Costela IORDACHE<sup>1</sup>, Claudia FLORESCU

**Abstract:** The purpose of the present study is to present the demographic characteristics of the urban settlements situated in the mountainous disadvantaged area of the South-West Development Region, Oltenia. Following our analysis, several aspects have been asserted: the numerical evolution of the population and identifying categories of urban settlements as resulting from the demographic dynamics, the natural and territorial movement of the population, the demographic behaviour expressed by demographic potential and marriage stability, the indicators pointing out gender, age, ethnical and confessional structure of the population.

**Key-words:** *population, urban settlements, mountainous disadvantaged area, Oltenia*

**Cuvinte-cheie:** *populație, orașe, zona montană defavorizată, Oltenia*

#### I. INTRODUCTION

The mountainous disadvantaged areas are stipulated by the National Plan of Rural Development 2007-2013 and G.E.O. No. 355/2007 regarding the approval of defining criteria, assignation and list of administrative-territorial units within the mountainous disadvantaged area, according to Art. No. 18 from Regulation E.C. 1257/1999: "(...) areas in which the agricultural production is affected by specific climatic and relief conditions. The geographical and climatic causes leading to these difficulties are the following: an average elevation over 600 m, determining extremely difficult climatic conditions and a substantial shortening of the vegetation period; or an average elevation between 400 and 600 m, determining difficult climatic conditions, with average slopes over 15%, making mechanization processes impossible or necessitating expensive additional equipment (...)".

At the national level, 657 administrative-territorial units included in 27 counties represent mountainous disadvantaged areas. In the South-West Development Region, Oltenia, the mountainous disadvantaged area includes 44 administrative-territorial units, wherefrom 36 are rural and 8 are urban settlements.

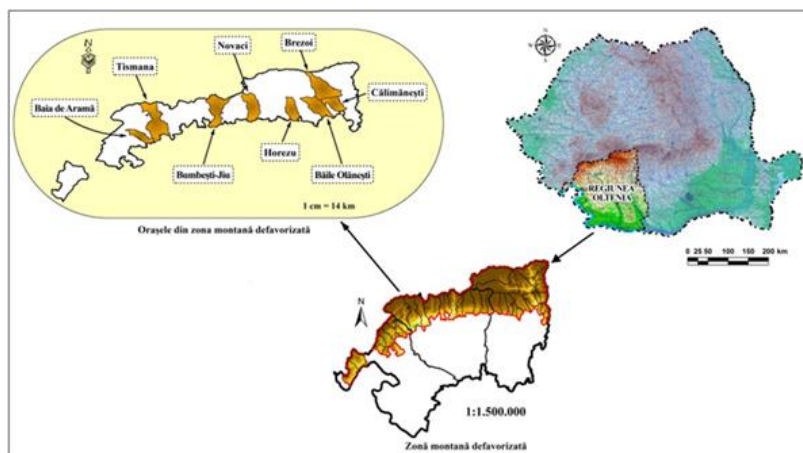
---

<sup>1</sup> University of Craiova, Faculty of Sciences, Geography Department, Al. I. Cuza Street, No. 13, Craiova, Romania, e-mail: costelaiordache@yahoo.com

The studied area includes 8 urban settlements (Fig. 1): Bumbești-Jiu, Novaci and Tismana in Gorj county, Baia de Aramă in Mehedinți county, Băile Olănești, Brezoi, Călimănești and Horezu in Vâlcea county. From an administrative-territorial point of view, these towns include 60 settlements, 40 of them being rural. The total area of study is 1400.2 sqkm.

All the analysed settlements rank third in the national urban hierarchy, most of them having rural characteristics (except for Tismana, which is not included in the classification because it was only until 2004 that it was declared urban).

From the point of view of the physical-geographical units, while Brezoi lies in the mountainous area and Baia de Aramă in the Mehedinți Plateau, the rest of the analysed settlements are situated in the Getic Subcarpathians.



**Fig. 1. Geographic location of the urban settlements in the mountainous disadvantaged area of Oltenia**

## II. DATA AND METHODS

In order to achieve the present analysis, we have processed the statistical data at the level of urban administrative-territorial registered by the National Institute of Statistics, data series included in TEMPO online database. The data refer to demographic dimension, natural and territorial movement of the population, but also, gender, age groups, ethnic and confessional structure of the population. The demographic indicators point out situations during several reference years: 1992, 2002, 2011 and 2014, only the latter reflecting an intercensitary period.

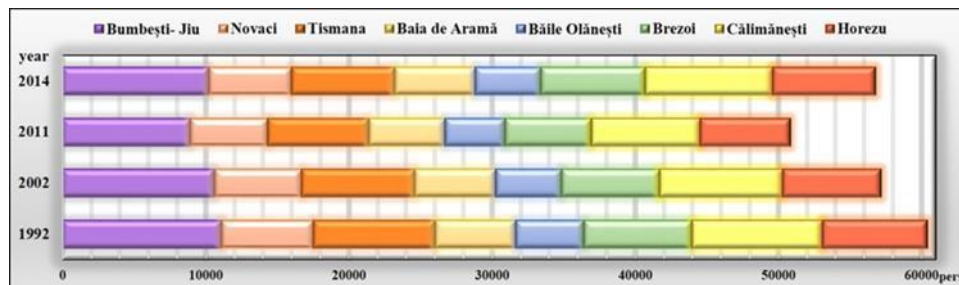
The present study represents a quantitative exploratory research, a complex methodology being required: documentary analysis, secondary analysis of quantitative data, comparison and synthesis, cartographical and geographical methods.

## III. RESULTS AND DISCUSSIONS

### 3.1. The numerical evolution of the population

During 1992-2014, the urban population of the mountainous disadvantaged area of Oltenia reduced by 6%, which means a decrease of 3,634 inhabitants. During this

period, the most pronounced demographic decline was registered by Tismana (15.2%) and Novaci (10.0%), while Horezu (2.1%) and Călimănești (2.2%) were less affected; Baia de Aramă stands out by its numerical demographic stability (-5 inh.; -0.1%) (Fig. 2).



**Fig. 2. Numerical evolution of the population during 1992-2014**

Analysing the demographic dynamics on intervals, we could observe a permanent descendant trend until 2011 for all analysed urban settlements, the decline between two consecutive censuses being of 5.4% and respectively, 11%.

The demographic decline is caused by the general transition process Romania entered beginning with 1990 and constant lowering quality of life. Industrial destructuring generated by monospecialization and economic restructuring determined a drastic regression of the natural growth of the population and perpetuation of the demographic decline process.

During the last three years, a positive evolution is observed for all urban settlements (11.6%), the increase being more evident in cases of Brezoi (20.6%), Călimănești (17.1%), Bumbești-Jiu (14.6%) and less evident for Tismana (2.5%), Baia de Aramă (5.2%) and Novaci (6.5%).

Following a general regressive trend, the urban settlements can be included into two categories from the point of view of their demographic evolution:

- urban settlements registering conjunctural but cvasistagnant dynamics, as Baia de Aramă, for example;
- urban settlements registering regressive dynamics but with a changing tendency after the last census.

Taking into consideration the demographic dynamics and nowadays demographic dimension of the component settlements, we have identified the following settlement categories (following the model Cocean proposed in 2004),

- 5 settlements that will definitely disappear (less than 50 inh.): Pietrosu (24 inh.), Comanca (25 inh.), Moșoroasa (38 inh.), Tisa (44 inh.) part of Băilor Olănești and Corbu (43 inh.), part of Brezoi;
- 6 settlements at risk of depopulation (50-100 inh.): Gurguiata (52 inh.- Băile Olănești), Dealu Mare (66 inh. - Baia de Aramă), Văratca (87 inh.), Proieni(90 inh.), Drăgănești (94 inh.) and Golotreni (99 inh.) – part of Brezoi;

- five settlements in a preliminary state of depopulation (100-200 inh.): Pistrițu (145 inh.) and Bratilovu (147 inh.), part of Baia de Aramă, Tănăsești (178 inh.) and Ifrimești (184 loc), part of Horezu, but also Păscoaia (184 inh.), part of Brezoi;
- one settlement in a state of uncertainty (200-250 inh.): Căciulata (229 inh.), part of Călimănești;
- 43 viable settlements (over 250 inh.).

According to the demographic dimension of the component settlements, over a third of the population (32.3%) lives in four of the largest settlements (over 3,000 inh.), which represent 6.7% of the overall number of settlements. In addition, 3% of the population is dispersed in 16 very small settlements-having less than 250 inh. (representing 26.7% of the total number of settlements).

### **3.2. The natural growth of the population**

The population dynamics is in a great measure determined by *birth* frequency. The political-economic changes from the beginning of the 1990s also reflected in the reproductive behaviour of the population. Thus, while in 1992, a total of 746 live births was registered, in 2014 only 470 live births were registered, which means a 37% decrease of birth frequency. This decrease is emphasized by the fact that over 100 live births were registered in each urban settlement only during the first year of our analysis: 118 in Bumbești- Jiu, 103 in Horezu, 100 in Baia de Aramă and Călimănești). The least live births (454) were recorded in 2011, when the lowest natality during the entire period was registered, as 26 newborn were recorded in Băile Olănești.

In the urban assembly, the birth rate values vary from the minimum of 5.1‰ in Bumbești-Jiu in 2014 and the maximum of 17.8‰ in Baia de Aramă in 1992. At the territorial level, the birth rate was 9.9‰ during the reference years varying from 7.7‰ in Bumbești- Jiu and 12.5‰ in Baia de Aramă. From an evolutive point of view, the birth rate was constantly descending, with less than 4.4‰ in the urban assembly, less than 8.7‰ in Baia de Aramă and 2.5‰ in Călimănești. Novaci is in a rather different situation, as birth rate values, although regressive along the period, had a slight increase of 4.4‰ during the last reference year.

The *mortality* presents both temporal and territorial differentiations. Thus, the ascending mortality rate is to be noted first of all as it increased by 1.2‰ during the analysed interval. The average mortality rate was 11.2‰ (similar to the national value, but inferior to the regional one), having a maximum of 14.6‰ in Tismana and a minimum of 8.8‰ in Bumbești-Jiu.

Within territorial profile, the extremes registered between 15.4‰ in Tismana in 2011 and 6.2‰ in Bumbești-Jiu in 1992. An evolutive perspective of this demographical indicator, on the one side highlights Baia de Aramă and Bumbești-Jiu, with values inferior to the average one during the entire period and on the other side, Tismana with the highest values. As compared to these, the mortality rate maintained almost constant in Brezoi along the period.

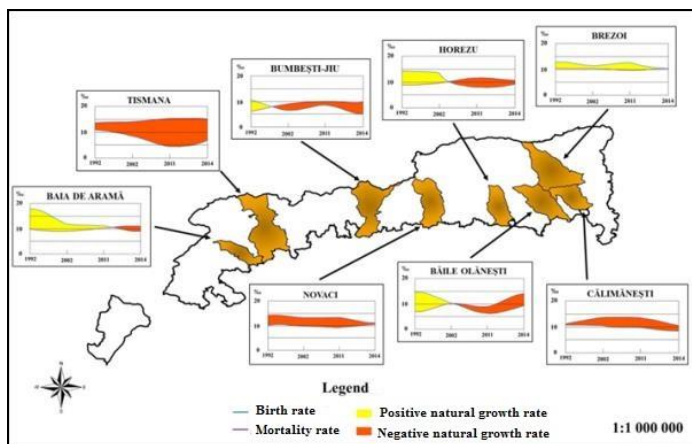
In what concerns the *infant mortality*, its values registered a powerful setback, from 22.7‰ to 6.4‰, aligning the studied area in the national and regional trend. The highest infant mortality rates were registered in Baia de Aramă (50‰) and Călimănești

(40‰) in 1992, but its values constantly reduced to 0 and respectively, 26.3‰ during the last reference year.

The natural growth rate dynamics follows the natality and mortality pathway. While in 1992 the natural growth rate was positive (2.2‰), during the following years it becomes negative up to -3.1‰ in 2014.

At the beginning of the analysed interval, most of the urban settlements had a positive natural growth rate (with a maximum of 7.8‰ in Baia de Aramă and Băile Olănești), except for Călimănești (-0.4‰), Tismana (-2.8‰) and Novaci (-4.2‰). During the second reference year, the situation becomes even, in the sense that half of the urban settlements have positive natural growth rate, while the other half have negative natural growth rate. In 2011, only Brezoi (3.0‰) and Baia de Aramă (0.9‰) had a positive natural growth rate, while the demographic deficit characterizes all urban settlements during the last reference year.

The most difficult situation is in Tismana, where the natural growth rate has been constantly negative during the analysed interval, unlike Baia de Aramă and Brezoi, where the negative values appeared during the last reference year (Fig. 3).



**Fig. 3. The natural growth rate**

The demographic decline is also pointed out by the evolution of the vitality index (or Pearl index – as a ratio between live births and deceased) both at the level of the entire region, but also within territorial profile (Fig. 4). The average value for the entire area is 89.6%, which reflects the tendency of demographic decline because of the lack of simple reproduction (Vasile, 1975 apud Vert, 1995).

While at the beginning of the analysed interval the urban population had an increasing tendency expressed by an index of 121.3%, during the following years the index decreased below 100 and reached 72.3% during the last reference year. At the local level, the evolution shows that 37.5% of the urban settlements exceeded the region's average in 1992, the maximum value being registered by Băile Olănești (212.1%) and the minimum value by Novaci (70.7%). The geographical distribution of this index at the level of 2002 indicated significantly reduced values in Bumbesti-Jiu

(2.4 times) and Băile Olănești (2.1 times), but also a slight increase in Novaci (3%). In 2011, the number of urban settlements in which values exceed 100 reduced to Brezoi (131%) and Baia de Aramă (109.1%), while Tismana registers 29.6%, representing the minimum value of the interval. During the last reference year, values vary from the maximum of 95.3% in Novaci to the minimum of 45.9% in Tismana.



**Fig. 4. The vitality index (Pearl index)**

### 3.3. The demographic behaviour

The demographic behaviour is defined as the attitude of a married couple towards breeding, namely towards family dimension (...) (Erdeli et al., 1999), which means it has a significant role in the numerical evolution of the population.

The demographic behaviour of the population usually represents characteristic that is measured and structured historically because of gradual or synchronous action of several specific factors within the local community. Having a similar structure in any given geographical and social-historical context, the demographic behaviour is estimated according to the receptivity to exterior influences or basic behaviour.

In order to assess the demographic behaviour, some synthetic indicators are considered, such as the demographic potential and the instability index (Ianoș, Guran, 1995, Braghină, 2000, Zamfir, 2007).

The *demographic potential* represents the feminine population contingent that detaches through direct influence over demographic behaviour (Table no.1). It is expressed as the ratio between the feminine population aged 15-49 and the total feminine population, as in the following formula:

$$I_{pd} = \frac{P_{f(15-49)}}{P_{ft}} \times 100 \quad (\text{Zamfir, 2007})$$

Comparing this indicator's values at the beginning and the end of the analysed interval, we could conclude:

- the index increased from 48.1 % in 1992 to 50.1% in 2014;
- while in 1992 three of the analysed urban settlements registered a demographic potential higher than 50%, in 2014 there were four urban settlements in this situation;
- the lowest values registered in Tismana (43.5%-46.4%) and Băile Olănești (45.9%);

- Tismana occupied the last position during the entire interval, but there was a slight increase of the index from 43.5% to 46.4%;
- Bumbesti-Jiu and Brezoi registered values higher than 50% during the two reference years;
- as compared to the initial situation, in 2014 there was also an augmentation in Bumbesti-Jiu (by 3.7%), Tismana (by 6.9%), Baia de Aramă (by 12.9%), Brezoi (by 3.2%), Călimănești (by 5.2%) and Băile Olănești (by 7.2%), but also a decrease in Horezu (by 5%).

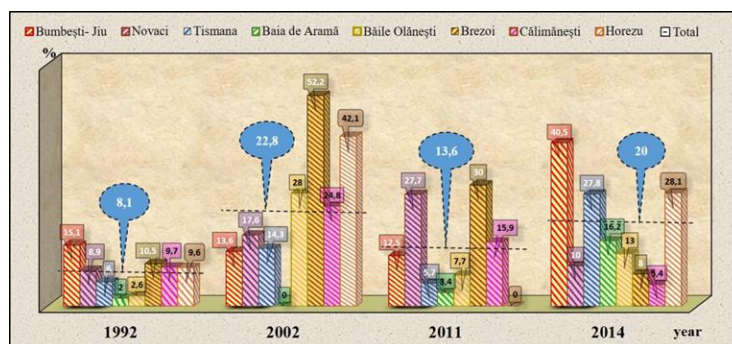
**Table no. 1. The demographic potential in 1992 and 2014**

Urban settlement	1992			2014		
	Pft	Pf(15-49)	Ipd	Pft	Pf(15-49)	Ipd
Bumbesti- Jiu	5032	2607	51.8	5229	2810	53.7
Novaci	3476	1635	47.03	2932	1383	47.2
Tismana	4316	1879	43.5	3644	1692	46.4
Baia de Aramă	2892	1342	46.4	2785	1460	52.4
Băile Olănești	2519	1157	45.9	2327	1146	49.2
Brezoi	3569	1804	50.5	3660	1907	52.1
Călimănești	4612	2213	48.0	4621	2333	50.5
Horezu	3910	1957	50.1	3737	1778	47.6
TOTAL	30326	14594	48.1	28935	14509	50.1

(Source: www.insse.ro; processing data)

Couple stability can be quantified by the ratio between the number of separations and the number of marriages (...) through the *instability index* (...) that can disclose a certain state in the demographic growth (Ianoș, Guran, 1995).

As compared to 1992, we could state an important intensification of marriage instability. Thus, while familial stability was much higher at the beginning of the analysed interval, the instability index having values below 10% in 75% of the urban settlements, the average increased by 2.8 times over a decade (Fig. 5).



**Fig. 5. The instability index**



It is to be noted that the highest values of the ratio between marriages and separations was registered in 2002. A certain spatial concentration of the instability phenomenon is observed in Brezoi (52.2%), Horezu (42.1), Băile Olănești (28.0%) and Călimănești (24.8%), as compared to Baia de Aramă, in which marriage stability was maximum. During the following census, a slight decrease (by 1.8 times) of the instability index is noted both at the general level, but also within territorial profile, except for Novaci and Baia de Aramă. The most stable couples were registered in Horezu, Baia de Aramă, Tismana and Băile Olănești, as opposed to the ones in Brezoi (30.0%) and Novaci (27.7%). The last reference year highlights an intensification process of family instability pointed out by an average of 20% and a considerable difference between the minimum of 5.4% in Călimănești and a maximum of 40.5 in Bumbești-Jiu.

### **3.4. The territorial mobility of the population**

The number of the persons in a process of *migration (arrivals or departures by residence)* decreased from 2,510 persons in 1992 to 1,073 persons in 2014, which means a diminishing of 57.3%. At the beginning of the analysed interval, the largest amount of migrants was registered in Brezoi (667 pers.), Bumbești-Jiu (499 pers.), Călimănești and Horezu (3,004 pers. each). During the last reference year, Bumbești-Jiu occupied first position (230 pers.), followed by Baia de Aramă (204 pers.), Novaci and Călimănești (more than 120 pers. each).

During the analysed interval, the total migration rate reduced more drastically in Brezoi (by 85.5%), Călimănești (61.3%), Horezu (54.6%) and Bumbești-Jiu (53.9%), the lowest values being registered in Tismana (27.1%) and Baia de Aramă (28.3%).

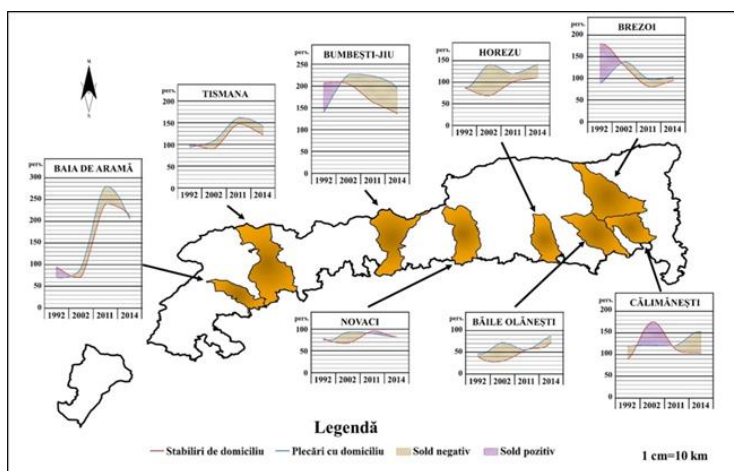
The *migratory balance* was positive only in 1992 (when 442 arrivals were registered), a year in which Tismana, Horezu, Călimănești and Băile Olănești already had a negative migratory balance. During the following year, its values maintain positive in Bumbești-Jiu and Baia de Aramă, while in 2011 only Baia de Aramă registers new arrivals. During the last year, the negative migratory balance has generalized, the most significant demographic loss being registered in Bumbești-Jiu and Călimănești (Fig. 6).

Between 1992- 2014, the *total migration rate* (residence included) decreased from 41.6‰ to 18.9‰, which shows that the urban population's spatial mobility decreased by 2.2. At the level of administrative-territorial units, this rate greatly varied (with a 73.2‰ difference) from 88.4‰ in Brezoi to 15.2‰ in Tismana. The values registered in Horezu and Bumbești-Jiu were close to the regional average, the extremes being registered in Băile Olănești and Baia de Aramă. As compared to the average of 2014, the extremes are registered in Bumbești-Jiu (22.5‰) respectively, Baia de Aramă (2.0‰). Given the context of a less intensified migratory flow, we could note the values in Novaci and Horezu (about 20‰), the other urban settlements registering values below 15‰.

The analysis of statistical data referring to permanent migration (including international migration) during the four reference years leads to the following conclusions:



- a positive migratory balance at a regional level only in 1992;
- increasing negative values towards the end of the analysed interval;
- Bumbesti-Jiu detaches by the highest values of the negative migratory balance;
- Baia de Aramă possesses positive values at the beginning and the end of the analysed interval, but negative ones in-between;
- Novaci possesses an oscillating migratory balance, registering important demographic loss during the first decade, a slight rectification in 2011 and null during the last reference year;
- Băile Olănești, Horezu and Tismana possess a negative migratory balance almost the entire interval.



**Fig. 6. The migratory balance**

In what concerns the permanent migration rate, we could observe an augmentation from 26.4‰ to 36‰ over the last two decades. During the first reference year, the intensity of the migrational process slightly varied at the level of the urban settlements, reflected by the maximum value of 35.5‰ in Brezoi and the minimum value of 18.2‰ in Băile Olănești. But, during the last reference year, the migrational process greatly varied as the values of migratory rates reached the maximum of 74.3‰ in Baia de Aramă and the minimum of 27.1‰ in Brezoi. Values similar to the regional one were registered in Tismana, Horezu and Bumbesti-Jiu, while Călimănești and Novaci are the extremes.

### **3.5. The gender and age structure of the population**

The gender structure of the population is influenced by the higher values of live births and supra-mortality within the male population, by the risks in case of social events depending on gender differences and last but not least, by the industrialization process and migration intensity. Knowing gender disproportions has social and economic importance especially due to their implications in terms of demographic, economic and social effects (Braghină, 2000).

We have considered three indicators in order to analyse gender structure of the population: female population share, femininity ratio and female population overstock (Table no. 2). During the two analysed reference years, women were more numerous than men, holding 51.9%, respectively 51.0% of the total population. Except for Baia de Aramă and Horezu in 1992, the female population was predominant in all urban settlements, with shares comprised between 50.4% in Novaci and 56.4% in Bumbești-Jiu. The importance of the female population is highlighted by the percent women hold in Brezoi (54.3%) and Călimănești (53.1%).

In the following period, there is a certain balancing tendency of gender structure especially reflected during the last reference year:

- a single urban settlement in which the male population remains predominant: Baia de Aramă, with 50.5%;

- significant decrease of the female population share in the urban settlements previously mainly feminine: by 5.3% in Bumbești-Jiu, by 3.9% in Brezoi and by 1.3% in Călimănești;

- female population increase in Horezu from 49.1% to 52.4%.

Gender structure of the population is also characterized by an indirect indicator, calculated as a relative measure of coordination, known as the *femininity ratio*, according to the formula:

$$R_f = F/M \times 100, (\text{Vert, 1995})$$

Calculated for 1992 and 2014, values of this ratio highlight several issues:

- at regional level, in the two analysed years, the ratio was supraunitary, meaning that a total of 110, respectively 104 female persons are assigned to 100 male persons;

- Baia de Aramă presents the only subunitary ratio, but an increasing one;

- given the general context of femininity ratio decrease (by 6.1%), there were some oscillations; thus, several urban settlements had ascending dynamics: Novaci (+0.7%), Baia de Aramă (+1.1%) and Horezu (+13.7%); the descending trend was more pronounced in what concerns the number of administrative units, but also in its proportions: Bumbești-Jiu (-24.8%) and Brezoi (-17.4%), followed by Călimănești (-6%), Tismana (-4.9%) and Băile Olănești (-2.9%);

- regarding the territorial-administrative units, there is a big discrepancy (32.8%) in 1992 between the highest value of 129.3% in Bumbești-Jiu and the lowest of 96.5% in Horezu; in 2014, the difference is significantly reduced (12.3%) between the maximum of 110.2% in Horezu and the minimum of 97.9% in Baia de Aramă.

In studying the population structure by gender, Trebici (1979) proposed an auxiliary index called the *female/male population excedent*, expressed as a ratio between the numerical difference between sexes and the total population. Analysing it in 1992 and 2014 indicates on the one side, the decrease of its values by 2.7% during the studied period; then, Bumbești-Jiu and Băile Olănești maintain their extreme positions: in 1992, Bumbești-Jiu registered 6.3%, while Băile Olănești registered 2.5%; in 2014, the difference lowers from 5.2% in Bumbești-Jiu to 2.3% in Băile Olănești.

**Table no. 2. The gender structure of the population in 1992 and 2014**

Administrative Unit	Female pop. share (%)		Feminity ratio (%)		Female pop. excedent (%)	
	1992	2014	1992	2014	1992	2014
Bumbești-Jiu	56.4	51.1	129.3	104.5	6.3	5.2
Novaci	50.4	50.7	101.5	102.8	3.2	2.9
Tismana	51.7	50.5	107.1	102.2	4.4	3.6
Baia de Aramă	49.2	49.5	96.8	97.9	2.8	2.8
Băile Olănești	51.4	50.7	105.7	102.8	2.5	2.3
Brezoi	54.3	50.4	119.0	101.6	4.1	3.7
Călimănești	53.1	51.8	113.3	107.3	5.3	4.6
Horezu	49.1	52.4	96.5	110.2	3.6	3.7
TOTAL	59.9	51.0	110.1	104.0	31.6	28.9

(Source: www.insse.ro; processing data)

The *age structure of the population* reveals important changes (Table no. 3). Thus, while in 1992, the young age group of the population numbered 13,800 persons, representing 22.8% of the region's total population, in 2014 it diminished to 13.4%, meaning 7,609 persons. In the same time, the elderly population's percent increased from 10.3% (6,201 persons) to 14.9% (8,472 persons), revealing the installation of the demographic ageing process.

Regarding the genres, decreases are more evident in young male population, whose share was reduced from 24.3% to 13.6%, while the percentage of young women fell from 21.5% to 13.2%. In the elderly group, the share of women increased from 12.1% to 18.5%, males from 8.3% to 11.2%. All in all, we concluded that the proportion of young people drop (9.4 percentage points) is more intense than increasing proportion of elderly people (4.6 percentage points), which highlights a demographic ageing process intensified by young population migration.

At the beginning of the studied period, the young population surpassed 20% in all urban settlements, the highest value of 27.0% being registered in Baia de Aramă, followed by Horezu (26.8%) and at the other extreme by Tismana (20.5%) and Novaci (21.1%). During the last reference year, the young population in Baia de Aramă remains most numerous (15.8%), followed by Brezoi (15.7%) and Horezu (14.5%); the lowest shares were registered in Bumbești-Jiu (11.4%) and Tismana (12.3%).

The configuration of the elderly people percentage held in 1992 shows large discrepancies (6.7 percentage points) at the local level; it registered a minimum of 7.2% in Bumbești-Jiu and a maximum of 13.9% in Tismana, while below average stood Brezoi, Horezu and Baia de Aramă. According to statistics, the demographic ageing process was already in progress in Bumbești-Jiu, Brezoi, Horezu, Baia de Aramă, Călimănești, while in Băile Olănești, Novaci and Tismana the process was delineated and presented an upward trend. In two decades' time, the minimum proportion of elderly is still registered in Bumbești-Jiu (11.6%) and the maximum

in Novaci (19.5%). Băile Olănești and Tismana present a higher level of demographic ageing, as evidenced by the shares owned by the elderly (17.2%).

**Table no. 3. Age groups structure in 1992 and 2014**

Urban settlement	Young population		Adults		Elderly people	
	1992	2014	1992	2014	1992	2014
	%	%	%	%	%	%
<b>Bumbești- Jiu</b>	21.6	11.4	71.2	77.0	7.2	11.6
<b>Novaci</b>	21.1	12.7	65.1	67.8	13.8	19.5
<b>Tismana</b>	20.5	12.3	65.6	70.5	13.9	17.2
<b>Baia de Aramă</b>	27.0	15.8	63.2	71.0	9.8	13.2
<b>Băile Olănești</b>	22.0	12.7	65.3	70.1	12.7	17.2
<b>Brezoi</b>	23.1	15.7	69.6	71.4	7.3	12.9
<b>Călimănești</b>	22.3	13.3	67.4	71.7	10.3	15.0
<b>Horezu</b>	26.8	14.5	63.7	70.1	9.5	15.4
<b>TOTAL</b>	22.8	13.4	66.9	71.7	10.3	14.9

(Source: www.insse.ro; processing data)

The *demographic ageing index*, defined as ratio between the elderly and young people, better reflects the structure of the population by age groups, also constituting an element of forecasting the demographic development potential of urban settlements. The evolution of this index during the last two decades and its spatial configuration reveal that its values have increased two and a half times because of low birth rate and migration.

At the beginning of the transition period (Table no. 4), Brezoi, Horezu and Bumbești Jiu had a favourable demographic context since their demographic ageing index was below 35%, showing a significant vitality. The population of Baia de Aramă and Călimănești was still young since the value of the ratio between elderly and young people was below 50%. The population in Băile Olănești, Novaci and Tismana presented a slight tendency of incipient ageing as their index value was below 68%.

**Table no. 4. Indicators of age structure of the population in 1992 and 2014**

Urban settlement	Demographic ageing index (%)		Demographic dependency index (%)		Labor force replacement index (%)	
	1992	2014	1992	2014	1992	2014
Bumbești- Jiu	33.2	102.2	404.7	299.1	91.1	44.3
Novaci	65.2	154.1	536.1	474.1	97.3	56.0
Tismana	68.0	140.1	523.3	419.3	93.5	52.4
Baia de Aramă	36.5	53.3	582.0	407.6	127.9	66.5
Băile Olănești	57.7	136.1	529.6	426.4	100.8	54.1
Brezoi	31.5	82.7	436.7	400.7	99.7	65.8
Călimănești	46.0	112.5	483.0	394.7	99.3	55.7
Horezu	34.5	106.5	571.1	425.8	126.5	61.8
TOTAL	44.9	111.3	495.1	395.3	102.5	56.1

(Source: www.insse.ro; processing data)

Two decades later, there is a dramatic change of this rate, with increases ranging from a minimum of 1.5 times and a maximum of 3.1 times. Increases more than 2.4 times were reported in Horezu, Băile Olănești, Novaci and Călimănești. In short, except for Baia de Aramă and Brezoi whose population is aging, in all other urban settlements the process of demographic ageing is very pronounced.

The demographic ageing is a process that disturbs the balance in the structure of age groups and correlates with other demographical-economic phenomena, including the demographic dependency ratio and the labor potential (Dumitrescu, 2008).

Calculated as the ratio between the total number of children (under 14 years), elderly persons (over 60 years) and the total adult population of working age (Erdeli& Dumitrache, 2009), the *demographic dependency index* (Table no. 4) is of great importance when assessing the demographical-economic potential. The values of this index are the higher as the share of young and elderly segment of the population is higher.

Thus, during the first reporting year, the average value of this index was 495‰, which means that 495 young and elderly persons were supported by 1,000 adult persons. The biggest values of the demographic dependency ratio were registered at Baia de Aramă (582‰), Horezu (571‰) and Novaci (536‰) and the lowest in Bumbesti-Jiu (405‰) and Brezoi (437‰). This hierarchy depends on the share young and elderly people hold in the total population, over 35% and less than 30% respectively.

In the other reference year, the number of dependant adults decreases by 100, the average dependency ratio being 395‰. In the top of the hierarchy lies Novaci (474‰), followed by Băile Olănești (426‰) and Horezu (425‰) and the last is Bumbesti-Jiu (299 ‰). Similar to the previous year, the share of the dependant age groups stands over 1/3 within urban settlements at the top of the hierarchy, respectively the percentage of 23% held by young and elderly persons as it is the case of Bumbesti-Jiu.

Analyzing the values of this index in 2014 as compared to 1992, we could observe that demographic dependency decreased on average by 20.2%. Registered in all analysed urban settlements, the decrease was more pronounced in Baia de Aramă (29.9%), Bumbesti-Jiu (26.2%) and Horezu (25.4%). Smaller scale regressions occurred in Brezoi (8.2%) and Novaci (11.6%).

The *workforce replacement index* represented by people under 15 reported in 1/3 of the population between 15-59 years (Erdeli&Dumitrache, 2001) has economic and social importance. The smaller (than 100%) the value of this index is, the more numerous potential labor resources will be.

While the overall value of this index in the period under review was reduced by over 45% (Table no. 4), decreases within territorial level varied between a minimum of 34% in Brezoi and a maximum of 51.4% in Bumbesti-Jiu. Unlike during the first analysed year, when only Bumbesti-Jiu, Tismana, Novaci, Brezoi, Călimănești and presented good replacement labor potential, during the last

reporting year, all urban settlements were in a favorable situation, Bumbești-Jiu and Tismana occupying first ranks.

### **3.6. The ethnic and confessional structure of the population**

In terms of *ethnic structure*, the profile of the analysed urban population within the mountain areas of Oltenia is simple and homogeneous, as a result of the 96% share only two ethnic groups hold. At the 2011 census, the population was structured as follows: 91.9% Romanian, 4.1% Roma, 0.1% other ethnic groups, 3.9% undeclared.

Romanians have the biggest shares in Novaci (99%), Tismana (98.8%), Băile Olănești and Horezu (98.6% each), in contrast with Baia de Aramă (89.5%), Brezoi (90.3 %) and Călimănești (93.9%).

The Roma community is well represented numerically and in terms of percentage in Baia de Aramă (534 persons representing 10.5% of the settlement's population), Brezoi (529 persons, 9.3%), Călimănești (430 persons, 5.9 %) and Bumbești-Jiu (325 persons, 3.8%). Lower shares characterize communities in Băile Olănești and Horezu (1.3% each), Tismana (1.2%) and Novaci (0.9%).

Hungarians presence was recorded in half of the administrative-territorial units: Brezoi (9 pers.), Călimănești (8 pers.), Bumbești-Jiu (7 pers.) and Horezu (3 pers.).

The ethnic assembly is completed by Italians (Brezoi and Novaci, 3 persons each), Germans (Călimănești, 3 persons) and Turkish people (Brezoi, 3 persons).

It is to be noted the situation of Brezoi, Horezu and Călimănești characterized by a relative ethnical heterogeneity given by the five ethnic groups in each settlement, as opposed to Baia de Aramă and Băile Olănești, with only two ethnical groups.

In what concerns the unavailable information, higher percentages were recorded in Brezoi (5.8%), Călimănești (4.8%), Baia de Aramă (4.7%) and Tismana (4.2%).

The ethnic homogeneity is also reflected in the religious structure of the population. According to personal free declaration, there were 47,907 registered Orthodox during the last census, representing 98.2% of the total area, well above regional and national averages.

Within territorial profile, the share is even higher. Thus, the largest concentration of Orthodox adherents is in Tismana, where they hold 99.7% of the total population, while in Baia de Aramă the share is only 92%. The Orthodox exceed 99% in Novaci, Băile Olănești and Horezu. It is important to mention that only in Baia de Aramă and Brezoi the share of Orthodox population is below the regional average area.

Among other religions, the Baptist has more adherents, 402 persons, representing 0.8% of the inhabitants. Most Baptists (88.3%) are concentrated in Baia de Aramă, which represents 6.9% of its population. Their presence has also been confirmed in Bumbești- Jiu (22 pers.), Băile Olănești (19 pers.) and Horezu (6 pers.).

223 persons belong to the Pentecostals, precisely a rate of 0.5% of the studied urban population. Most Pentecostals (126 pers.) are located in Brezoi,

where they hold 2.2% of the settlement's population. They have also been registered in Horezu (40 pers.), Bumbești-Jiu (31 pers.) and Călimănești (26 pers.).

Seventh Day Adventist religion has 116 adherents (0.2% of the total population of the area), dispersed in all urban settlements (they represent 0.5% maximum), excluding Olănești.

Roman Catholics form a group of 101 persons, being represented in all territorial-administrative units, where their number varies from 3 (Baia de Aramă, Tismana) to 55 persons (Brezoi).

There are other confessional groups too, but with weak numerical representation: Evangelical Christian (21 persons in Baia de Aramă and Bumbești-Jiu), Jehovah's Witnesses (18 persons in Brezoi and Bumbești-Jiu), Greek Catholic (16 persons in Brezoi and Călimănești), Muslim (8 persons in Brezoi and Novaci), Reformed (3 persons in Bumbești-Jiu), other religions (3 persons in Horezu).

These confessional representations add 5 atheists, 4 persons without religious adherence and 319 persons that did not declare their religion.

From the above mentioned, we can conclude that the religious profile of the urban population in the disadvantaged mountainous area of Oltenia counts at least 10 confessional groups. Bumbești-Jiu registers only 8 confessional groups, while Tismana records only two. The other urban settlements present the following situation: Brezoi 7 confessional groups, Horezu 6 confessional groups, Baia de Aramă și Călimănești 5 confessional groups each and Băile Olănești 3 confessional groups.

#### **IV. CONCLUSIONS**

The area under research is part of the disadvantaged agricultural areas declared in the National Rural Development Plan 2007-2013. It is outlined in the same dimensions in the Development Plan for the period 2014-2020. The ecological/environmental criterion was used to delineate the mountainous disadvantaged areas, the main purpose being economic revitalization through access to European funds.

In contrast, the disadvantaged areas declared between 1998-2003 were based on economic principles, areas whose legal status is off today.

The disadvantaged mountainous area of South-West Development Region Oltenia covers an area of 6012.2 square kilometers in Gorj, Mehedinți and Vâlcea and consists of 218 rural settlements and 8 cities.

The 8 urban settlements have been affected by the change of political system in 1989 through economic destructuration, the closure of the mine in Baia de Aramă, contraction or even definitive closure of industrial units activity, infrastructure damage, demographic mutations.

The research concentrated on these small urban settlements with less than 10,000 inhabitants mostly characterized by rural features, which are evidenced by three elements. First of all, these traits are determined by the share of population employed in the primary economic sector, exceeding 1/3 of the active population in most settlements, reaching a maximum of 61.5% in Tismana. The exceptions are



represented by Băile Olănești and Călimănești, where the active population in the sector hold only 3.2% and respectively 12.5%, due to their specific functional profile as spas. Secondly, administrative villages belonging to urban settlements have large shares, oscillating between 50.3% in Novaci and 75.2% in Tismana. And finally, the percent of modernized streets is all in all less than 50%, with a minimum of 30.1% in Băile Olănești and a maximum of 78.6% in Tismana.

From the point of view of population dynamics, these urban settlements are in pronounced demographic decline as a result of the fact that during a period of more than two decades, the population loss was comprised between 15.2% in Tismana and 0.6% in Baia de Aramă, the demographic decline counting 3,634 persons in the entire area. Unfortunately, the demographic regression will most probably continue as both natural and migratory balance were negative during the past years. This explains the fact that the administrative structure of Baia de Aramă, Băile Olănești and Brezoi include villages with less than 100 inhabitants. Moreover, there are five villages with less than 50 inhabitants, four of them being a part of Olănești and one of them a part of Brezoi.

The demographic profile of urban settlement in the disadvantaged area of Oltenia is characterized by the predominance of female population (51%), but following a downward path, accompanied by the reduction of femininity ratio by 6 percentage points and the increase of female population excedent by 2.7 percentage points.

The appearance of a demographical ageing process is highlighted by the reduction of the youth group share by 10.6 percentage points and, simultaneously, the increase of elderly people share with 4.6 percentage points. The values of the demographic ageing index has increased 2.5 times, but without having a very high demographic dependency ratio.

The demographic pressure in the area is expressed by the average density which presents high discrepancies, highlighted by values comprised between 24.2 inh./sqkm in Tismana and 85.4 inh./sqkm in Călimănești.

The ethno-confessional profile is dominated by Romanians who hold 96% of the population and by the Orthodox community, whose share is 98.2%, thus shaping a high level of ethnic and religious homogeneity.

## REFERENCES

ANCUȚA CĂTĂLINA (2002), *Considerații privind abordarea disparităților teritoriale în studiile de geografie*, Geographia Timisensis, nr. 2, Edit. Universității de Vest, Timișoara

ANCUȚA CĂTĂLINA (2008), *Studiul geografic al disparităților teritoriale din Banatul Românesc*, Edit. Mirton, Timișoara

ANTONESCU DANIELA (2001), *Evoluția și structura disparităților economice la nivel național și regional*, Oeconomica, nr. 3-4, București

ANTONESCU DANIELA (2003), *Dezvoltarea regională în România. Mecanisme, instituții*, Edit. Oscar Print, București

BENEDEK J. (2004), *Amenajarea teritoriului și dezvoltarea regională*, Edit. Presa Universitară Clujeană, Cluj-Napoca

BRAGHINĂ C. (2000), *Așezările umane din dealurile piemontane dintre Motru și Gilort*, Edit. Tehnică, București

- CÂNDEA MELINDA (coord., 2004), *Zonele defavorizate din România. Concepte, caracteristici, studii de caz, premise de dezvoltare*, Edit. Universitară, București
- COCEAN P. (2002), *Geografie regională*, Edit. Presa Universitară Clujeană, Cluj-Napoca
- COCEAN P.(coord.) (2004), *Planul de amenajare a teritoriului Regiunii de Nord-Vest (PATR). Coordonate majore*, Edit. Presa Universitară Clujeană, Cluj-Napoca
- CONSTANTIN D.L. (1998), *Elemente de analiză și previziune regională și urbană*, Edit. Oscar Print, București
- DUMITRESCU DANIELA (2008), *România. Regiunile de dezvoltare*, Edit. „Cetatea de Scaun”, Târgoviște
- ERDELI G., DUMITRACHE LILIANA (2001, 2009), *Geografia populației*, Edit. Corint, București
- ERDELI G., CÂNDEA MELINDA, BRAGHINĂ C., COSTACHIE S., ZAMFIR DANIELA (1999), *Dicționar de geografie umană*, Edit. Corint, București
- IANOȘ I., GURAN LILIANA (1995), *Comportamentul demografic recent al orașelor României*, S.C.G., T. XLII, București
- IANOȘ I. (2000), *Sisteme teritoriale. O abordare geografică*, Edit. Tehnică, București
- IORDACHE COSTELA (2009), *Geografia populației și așezărilor umane din România*, Edit. Universitaria, Craiova
- JULA D., AILINEI D., JULA N., GÂRBOVAN A. (1999), *Dinamica dezechilibrelor în dezvoltarea regională*, Oeconomica, Edit. Economică, București
- NACU DANIELA, DUMITRESCU BIANCA (2003), *Caracteristici demografice recente ale orașelor monoindustriale din zona carpatică*, Analele Universității „Valahia”, Seria Geografie, Tomul 3, Târgoviște
- PUȘCAȘU VIOLETA (2000), *Dezvoltarea regională*, Edit. Economică, București
- REY VIOLETTE, GROZA O., IANOȘ I., PĂTROESCU MARIA(2006), *Atlasul României*, Grupul Editorial RAO, București
- VLĂSCEANU GH., IANOȘ I. (1998), *Orașele României. Mică enciclopedie*, Casa Editorială „Odeon”, București
- VERT C. (1995), *Analiza geodemografică. Manual practic*, Edit. Mirton, Timișoara
- ZAMFIR DANIELA (2007), *Geodemografia orașelor mici din România*, Edit. Universitară, București
- ZOTIC V. (2005), *Componentele operaționale ale organizării spațiului geografic*, Edit. Presa Universitară Clujeană, Cluj-Napoca
- \*\*\* (1997), *Carta Verde; Politica de dezvoltare Regională a României*, Guvernul României și Comisia Europeană, București
- \*\*\* (2000), *România 2000. Profile regionale*, Institutul Național de Statistică, București
- \*\*\* [www.pndr.ro/pndr-2007-2013.htm](http://www.pndr.ro/pndr-2007-2013.htm)
- \*\*\* [www.monitoruljuridic.ro/act/ordin-nr-355-din-10-mai-2007-privind-aprobarea-criteriilor-de-incadrare-delimitarii-si-listei-unitatilor-administrativ-teritoriale-din-zona-montana-defavorizata-emitent-ministerul-82029.html](http://www.monitoruljuridic.ro/act/ordin-nr-355-din-10-mai-2007-privind-aprobarea-criteriilor-de-incadrare-delimitarii-si-listei-unitatilor-administrativ-teritoriale-din-zona-montana-defavorizata-emitent-ministerul-82029.html)
- \*\*\* [www.insse.ro](http://www.insse.ro); baza de date TEMPO on-line
- \*\*\* [www.mdrap.ro](http://www.mdrap.ro)