

DECLINING RURAL AREAS - DEMOGRAPHIC IMPLICATIONS

Marius Mihai MICU, Cătălin VINTU, Adina IORGA, Paula STOICEA

University of Agronomic Sciences and Veterinary Medicine Bucharest of Bucharest, 59 Marasti Boulevard, District 1, 011464, Bucharest, Romania, Phone: +40213182564, Fax:+40213182888, Mobile:+40744 6474 10, Emails: micumariusmihai@managusamv.ro, catalin_vintu@yahoo.com, iorga_adinam@yahoo.com, stoicea.paula@gmail.com

Corresponding author: micu.marius@managusamv.ro

Abstract

The rural area is of particular importance from a socio-economic point of view, whose economic activities are closely linked to the specific nature of the area. Rural localities are at different stages of development, depending on their specific characteristics. The aim of this paper is to identify the demographic effects of the poor economic development of rural localities, with particular emphasis on those in the South-Muntenia development region, which is known for its predominantly agricultural economic activities. In order to carry out the work, the main demographic indicators were qualitatively and quantitatively analysed and the main location and dispersion indicators were determined. The social outlook is not at all positive, both at national level and especially in rural areas. The population tends to decrease, influenced by the existing lifestyle, to which various factors contribute, such as the COVID-19 pandemic, but also the military conflicts in the area, which generate concerns.

Key words: rural areas, rural development, demography

INTRODUCTION

The rural space is a complex concept, which has generated different opinions on its definition, scope and components. In the view of several authors, 'the countryside' is seen as the totality of activities taking place outside the urban area, characterised by the fact that communities are made up of a relatively small number of members (with mutual relations), a dispersed population, and agriculture and forestry play a particularly important economic role [9, 10, 5]. Thus, 'countryside' can be defined in its simplest form as 'everything that is not urban', but it creates a great deal of confusion between the notions of rural and agricultural [17, 20, 6].

However, a slightly more complete definition is identified in European Council Recommendation 1296/1996 (European Charter), where rural area is defined as an inland or coastal area containing villages and small towns, and where much of the existing land is used for agriculture, forestry, aquaculture, fisheries. Economic and cultural activities, such as crafts, are also present [5, 18, 7].

The rural area is of particular importance from a socio-economic point of view, whose economic activities are closely linked to the specific nature of the area. Rural localities show different stages of development, influenced by their geographical location (close to large urban centres or close to the border, especially in the western part of Romania) and the importance of agriculture in the economic activities carried out in the localities. According to the study "A Difficult Pattern to Change in Romania, the Perspective of Socio-Economic Development" [9, 14, 2, 1], the authors state that it is not necessarily the low number of non-agricultural activities that is the main reason for the poor development of rural areas, but rather the quality of economic activities, which cannot generate a sufficient number of jobs for the local population. This pattern can be broken by local and national decision-makers, who through fiscal measures can encourage the development of quality non-agricultural activities [1, 8, 16].

With the depopulation of rural areas, in addition to the loss of cultural heritage, food security is affected and endangered, where

even the United Nations considers that food security must be seen from an international, national and local point of view (Figure 1) [9, 19, 13].

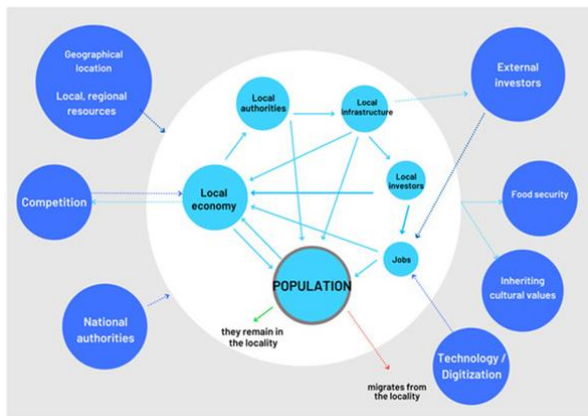


Fig. 1. Interdependence of internal and external factors on localities
 Source: [9].

The gap in living standards between urban and rural areas has led young people to migrate to other regions and to stay in these areas, especially the older population. At the same time, the ageing population can no longer carry out normal agricultural activities, preferring to rent out their small agricultural land. The large number of inhabitants in a locality leads to a large number of economic agents in order to satisfy their needs, but the reciprocal is also valid (Figure 1) [9, 15]. The aim of this paper is to identify the demographic effects caused by the poor economic development of rural localities, especially those in the South-Muntenia development region, known for its predominantly agricultural economic activities.

MATERIALS AND METHODS

In order to carry out the work, the main demographic indicator studied in this research work is population at the national level but mainly in the South Muntenia region of development and its 7 counties. The following indicators were qualitatively and quantitatively analysed: resident population, resident population by age, birth rate, mortality and natural increase. The information source used to collect the data is National Institute of Statistics. For all the indicators taken into consideration the empirical data were statistically processed

in terms of: arithmetic mean, geometric mean, quadratic mean, harmonic mean, median, modal value, quartiles) and the main dispersion indicators (relative amplitude, linear mean deviation, coefficient of variation, and confidence limits - lower and upper) were determined.

For this purpose, the Excel facilities have been utilized.

RESULTS AND DISCUSSIONS

Romania's population in 2021 reached 19.19 million inhabitants, a decrease of 4.4% compared to 2012, which is also the lowest value recorded in the period under analysis (Figure 2).

The South-Muntenia Region had, at the level of 2021, a 14.9% share of the total population registered at the Romanian level, of which Prahova and Argeş counties present the highest shares referred to the total population of the South-Muntenia Region, of 24.5% and 19.8% respectively (Figure 2).

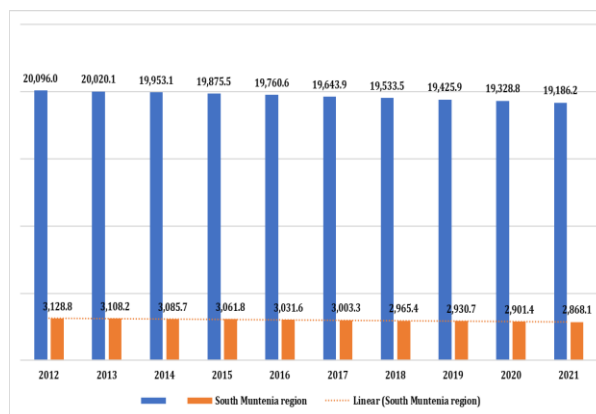


Fig. 2. Population evolution in Romania, 2012-2021 (thousands of inhabitants)

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Both at national level and in the case of the South-Muntenia region there is a decreasing trend in terms of the number of inhabitants, which is caused both by the decreasing birth rate and increasing mortality (ageing population) and by the migration of the population to European countries in search of better paid jobs (Figure 2).

Analysing the total population in the South-Muntenia development region and in the

counties of the region, the main location indicators were determined for the period 2012-2021. The arithmetic mean of the analysed data set for the total population was 19.68 million inhabitants, and for the South-

Muntenia region it was about 3 million inhabitants. The calculated median value of the analysed data set shows a value of 19.70 million or 3.01 million inhabitants (Table 1).

Table 1. Analysis of location indicators related to population

Location indicators								
QUARTILE								
Crt.	Count	Arithmetic mean	Geometric mean	Harmonic mean	Median	Q1	Q2	Q3
Total	10	19,682.4	19,680.2	19,678.0	19,702.3	19,452.8	19,588.7	19,741.0
Reg.	10	3,008.5	3,007.3	3,006.0	3,017.4	2,939.4	2,984.4	3,025.8
1	10	591.7	591.5	591.4	593.1	581.4	588.1	594.7
2	10	292.8	292.7	292.5	294.2	285.3	290.5	294.8
3	10	502.0	501.8	501.7	503.2	492.6	498.7	504.4
4	10	272.7	272.6	272.5	274.3	267.0	271.6	274.4
5	10	262.9	262.9	262.8	263.5	257.2	260.7	264.3
6	10	735.1	734.9	734.6	736.7	720.0	729.2	739.1
7	10	351.3	350.8	350.4	352.5	336.0	345.5	354.3

Legend: 1 - Argeş, 2 - Călăraşi, 3 - Dâmboviţa, 4 - Giurgiu, 5 - Ialomiţa, 6 - Prahova, 7 – Teleorman

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Table 2. Analysis of population-related dispersal indicators

Crt.	Min.	Max.	Abs. Ampl.	Rel. Ampl.	Variance	Std. dev.	C.V.	Std. error	Risk 5%	Lower limit	Upper limit	Rhythm %
Total	19,186.2	20,096.0	909.8	4.6	95,828.4	309.6	1.6	97.9	2.3	19,460.9	19,903.8	-0.5
Reg.	2,868.1	3,128.8	260.7	8.7	8,096.6	90.0	3.0	28.5	2.3	2,944.1	3,072.9	-1.0
1	567.7	611.0	43.3	7.3	208.6	14.4	2.4	4.6	2.3	581.4	602.0	-0.8
2	277.5	305.8	28.3	9.7	99.1	10.0	3.4	3.1	2.3	285.7	300.0	-1.1
3	483.0	517.7	34.7	6.9	149.4	12.2	2.4	3.9	2.3	493.2	510.7	-0.8
4	261.0	282.0	21.0	7.7	55.0	7.4	2.7	2.3	2.3	267.4	278.0	-0.8
5	251.5	273.3	21.8	8.3	55.1	7.4	2.8	2.3	2.3	257.6	268.3	-0.9
6	703.4	761.7	58.3	7.9	395.5	19.9	2.7	6.3	2.3	720.9	749.4	-0.9
7	324.0	378.0	54.0	15.4	351.7	18.8	5.3	5.9	2.3	337.8	364.7	-1.7

Legend: 1 - Argeş, 2 - Călăraşi, 3 - Dâmboviţa, 4 - Giurgiu, 5 - Ialomiţa, 6 - Prahova, 7 – Teleorman

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

As regards the analysis of the dispersion indicators for the period analysed, we identify the minimum values for the period in 2021, of 19.19 million inhabitants (at the national level) and 2.87 million inhabitants (at the level of the South-Muntenia region). Also, the maximum value was recorded in 2012, being 20.1 million inhabitants (at national level) and 3.13 million inhabitants (at the level of the South-Muntenia region) (Table 2). The coefficient of variation shows low values,

varying for the criteria analysed between 1.6% (C.V. at population level) and 5.3% (Teleorman county), indicating the homogeneous nature of the data analysed. The rate also shows negative values, which indicates a general trend of population decrease in all the areas analysed (Table 2). Romania's rural population in 2021 reached 8.9 million, down 3.7% from 2012 (Figure 3). However, there is a slight increase in the rural population in 2021 compared to the previous

year (0.31%), due to the migration of the population from urban centres to peri-urban regions (near large cities) as a result of restrictions imposed by the authorities to limit the spread of the COVID-19 pandemic (Figure 3).

The South-Muntenia Region had, as of 2021, a 19.55% share of the total rural population registered in Romania, of which Prahova and Dâmbovița counties have the highest shares in relation to the total rural population (South-Muntenia Region), 20.9% and 19.9% respectively (Figure 3).

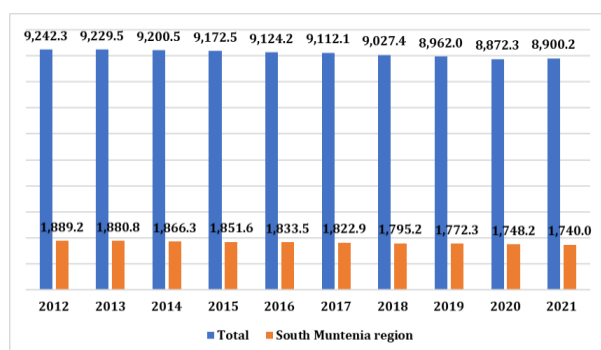


Fig. 3. Population evolution in rural Romania (thousands of inhabitants)

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Analysing the total population in rural areas and in the South-Muntenia development region, as well as in the counties of the region, the main location indicators were determined for the period 2012-2021.

The arithmetic mean of the analysed data set for the total rural population was 9.08 million inhabitants and for the South-Muntenia region was approximately 1.82 million inhabitants.

The calculated median value of the analysed data set shows a value of 9.12 million and 1.82 million inhabitants respectively (Table 3).

As regards the analysis of the dispersion indicators for the period analysed, we identify the minimum values of the period in 2020, of 8.87 million inhabitants (at national level - rural environment), respectively 1.74 million inhabitants (at South-Muntenia region level - rural environment in 2021). The maximum value was also recorded in 2012, being 9.24 million inhabitants (at national level - rural environment) and 1.89 million inhabitants (at the level of the South-Muntenia region - rural environment) (Table 4).

Table 3. Analysis of location indicators for the rural population

Location indicators								
Crt.	Count	Arithmetic mean	Geometric mean	Harmonic mean	Median	QUARTILE		
						Q1	Q2	Q3
Total	10	9,084.3	9,083.4	9,082.5	9,118.1	8,978.3	9,069.8	9,121.2
Reg.	10	1,820.0	1,819.3	1,818.5	1,828.2	1,778.0	1,809.0	1,830.9
1	10	319.7	319.6	319.5	321.2	313.8	318.4	321.7
2	10	187.0	186.9	186.8	188.1	182.0	185.7	188.4
3	10	359.1	359.0	359.0	360.5	353.8	357.9	361.0
4	10	193.6	193.6	193.5	195.1	189.2	192.9	195.4
5	10	146.7	146.6	146.5	147.3	142.8	145.5	147.6
6	10	376.3	376.2	376.2	377.1	369.8	374.3	377.8
7	10	237.6	237.2	236.9	238.7	226.6	234.0	239.5

Legend: 1 - Argeș, 2 - Călărași, 3 - Dâmbovița, 4 - Giurgiu, 5 - Ialomița, 6 - Prahova, 7 – Teleorman

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

The coefficient of variation shows low values, varying for the criteria analysed between 1.5% (C.V. at rural population level) and 5.5% (Teleorman county - rural), indicating

the homogeneous nature of the data analysed. The rate also shows negative values, which indicates a general trend of population decrease in all the areas analysed (Table 4).

Table 4. Analysis of dispersion indicators for the rural population

Crt.	Min.	Max.	Abs. Ampl.	Rel. Ampl.	Variance	Std. dev.	C.V.	Std. error	Risk	Lower limit	Upper limit	Rhythm %
Total	8,872.3	9,242.3	369.9	4.1	18,520.9	136.1	1.5	43.0	2.3	8,986.9	9,181.7	-0.4
Reg.	1,740.0	1,889.2	149.2	8.2	2,919.5	54.0	3.0	17.1	2.3	1,781.4	1,858.7	-0.9
1	307.0	329.9	22.9	7.2	64.9	8.1	2.5	2.5	2.3	313.9	325.4	-0.8
2	177.4	195.1	17.7	9.5	42.5	6.5	3.5	2.1	2.3	182.4	191.7	-1.0
3	346.9	368.0	21.1	5.9	59.2	7.7	2.1	2.4	2.3	353.6	364.6	-0.7
4	186.4	200.8	14.4	7.5	27.0	5.2	2.7	1.6	2.3	189.9	197.4	-0.7
5	139.3	153.4	14.1	9.6	24.8	5.0	3.4	1.6	2.3	143.1	150.2	-1.1
6	363.2	387.7	24.5	6.5	74.9	8.7	2.3	2.7	2.3	370.1	382.5	-0.7
7	219.8	255.7	36.0	15.1	171.4	13.1	5.5	4.1	2.3	228.2	246.9	-1.7

Legend: 1 - Argeş, 2 - Călăraşi, 3 - Dâmboviţa, 4 - Giurgiu, 5 - Ialomiţa, 6 - Prahova, 7 – Teleorman

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Analysing the evolution of the urban population, in the age ranges 0-4 years and 5-9 years, there were significant decreases of 11.7% and 10.3% respectively. in 2021 compared to 2012. However, the most significant increases were recorded for the population aged 65-69, and people over 85.

On the one hand, these increases in the older population indicate an increase in life expectancy, but on the other hand they require early action to avoid economic bottlenecks when the inactive population outnumber the active population (Table 5).

Table 5. Evolution of the urban population by age (thousands of persons)

Specification (years)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021/2012
0-4	59.9	57.5	55.5	54.6	54.1	54.8	55.8	56.5	55.5	52.9	-11.7
5-9	60.2	61.5	61.9	62.3	61.6	59.3	57.3	55.5	55	54	-10.3
10-14	59.4	58.2	57.5	57.4	57.9	58.8	59.9	60.4	61	60.1	1.2
15-19	62.2	62.8	61.1	59.9	59.2	57.8	56	55.4	55.5	55.7	-10.5
20-24	77.4	69.3	64.3	60.8	59.2	58.5	58.3	56.3	54.8	53.4	-31
25-29	81.7	81.8	83.3	81.7	75.3	67.8	60.3	55.6	52.9	51.1	-37.4
30-34	95.8	90	84.7	80.1	76.2	73.8	73.6	74.3	73.8	67.8	-29.2
35-39	98	98.8	99.7	97.7	95.2	91	85.5	79.5	76.1	72.3	-26.2
40-44	124.8	112.3	101.4	97.3	95.4	94.2	95.2	95.4	94.3	91.4	-26.8
45-49	74.5	88.7	101.6	109.6	115.4	119.7	107.3	96.7	93.2	91	22.1
50-54	94.1	88.1	82.4	77.7	73.6	70.1	84.4	96.4	104.3	108.9	15.8
55-59	102.9	102.3	101.5	97.9	93	86.8	81.8	76.3	72.2	67.7	-34.2
60-64	81	85.2	89.3	90.4	92.4	93.4	93.4	92.4	89.2	83.4	2.9
65-69	49.5	52.1	55.7	61.9	68.5	72.2	76.3	79.5	80.7	80.9	63.5
70-74	47	44.8	42.9	42	41	42.5	45.1	48.2	53.8	58.4	24.2
75-79	36.9	37.4	38.4	39	38.6	37.5	35.9	34.5	33.7	32.3	-12.5
80-84	21.9	23.2	23.7	24.4	24.9	25.7	26.1	26.8	27.6	26.7	22.1
Over 85	12.4	13.3	14.4	15.3	16.3	16.8	17.9	18.6	19.7	20.1	62.7

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

In the case of the evolution of the rural population according to age, the trend recorded at national level continues.

Also the extremes of the age intervals show higher values than in the case of the urban population, in the sense that the population aged 0-4 years and 5-9 years, respectively, at the level of 2021 were 75.6 thousand people, respectively 77.3 thousand people, compared to the urban population which was 52.9 thousand people, respectively 54 thousand people (Table 6).

Comparing the year 2021 to the reference year, the highest share was recorded among the 45-49 years old segment, where compared to 2012 there was an increase of 58.2% of the population (Table 6).

Analysing the evolution of the birth rate in the South-Muntenia Region, it can be seen that in 2020 the number of newborns decreased by 22.5% compared to 2007.

This phenomenon was recorded in both urban and rural areas, but was more intense in urban areas (Table 7).

Table 6. Evolution of the rural population by age (thousands)

Specification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021/2012
0-4	93.5	89.6	85.1	81.4	78.5	77.9	77.8	78.2	76.6	75.6	-19.1
5-9	100.8	99.6	98.9	98.6	97	93.7	89.8	84.9	80	77.3	-23.4
10-14	110	108.5	106.6	104.5	102.6	101.7	100.3	99.1	98.1	96.5	-12.2
15-19	109	109.9	109.9	109.8	109.6	108.9	106.3	103.4	100.1	98.7	-9.5
20-24	115.5	108.3	103.8	101	100.3	100.4	100.3	99.1	97.8	97.8	-15.3
25-29	104.5	109.1	114.2	116	110.9	104.3	95.4	89.8	85.9	86	-17.7
30-34	124.7	118.2	110.7	104.7	100.9	100.6	102.7	105.9	106.6	103.5	-17
35-39	141.6	141	140.6	135.8	130.7	124.9	117.2	108.1	101.7	99.1	-30
40-44	165.9	157	147.8	145.3	143	141.6	140	139.1	134.1	130.3	-21.4
45-49	89.3	109.4	127.5	141.2	153.9	165.5	154.8	145	142.5	141.3	58.2
50-54	104.3	100.9	95.7	92	89.8	89.2	107.7	125.5	138.2	151.3	45
55-59	117.3	115.7	113.7	111.1	106.7	103.2	98	92.9	88.7	87.4	-25.5
60-64	121.6	123	122.7	116.6	115.4	114.5	110.2	108.5	105.7	102.7	-15.5
65-69	99.4	101.9	102.5	107.4	112.5	114.1	113.5	113.5	107.6	107.6	8.3
70-74	107.3	101	94.5	91.3	86.3	87.8	89.2	90	95	99.9	-6.8
75-79	93.6	91.6	92.6	92.4	90.9	86.6	81.5	76.5	74.1	69.8	-25.5
80-84	58	61	61.3	62.6	62.6	64.7	63.5	64.8	64.7	63.5	9.5
Over 85	33	35.2	38.2	39.9	42.1	43.2	46.8	48	50.7	51.7	56.8

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Thus, in the case of the birth rate registered in urban areas, there was a decrease of approximately 30% in 2020 compared to 2007, while in the case of the rural population the decrease registered in the same period was 16.95%. The considerable difference between these two residence environments can be attributed to the fact that the urban population

prioritises career (professional development), and as a rule the number of children in families living in this environment is somewhat lower (Table 7).

Due to religious factors and customs, which are still observed in rural areas, the birth rate in rural areas is somewhat lower than in urban areas (Table 7).

Table 7. Evolution of the urban population by age (thousands of persons)

Specification	2007	2013	2014	2015	2016	2017	2018	2019	2020
Total	30.7	28.9	27.5	28.1	28.2	28.3	28	26.5	23.8
Urban	13.1	12.5	11.5	11.8	11.9	11.8	11.7	10.8	9.2
Rural	17.6	16.4	16	16.2	16.4	16.5	16.3	15.7	14.6

Location indicators						QUARTILE		
Crt.	Count	Arithmetic mean	Geometric mean	Harmonic mean	Median	Q1	Q2	Q3
Total	14	28.6	28.6	28.5	28.2	28	28.2	29.3
Urban	14	12	11.9	11.9	11.8	11.6	11.8	13.1
Rural	14	16.7	16.6	16.6	16.4	16.2	16.4	16.9

Dispersion indicators									
Specification	Min.	Max.	Abs. Ampl.	Rel. Ampl.	Variance	Std. dev.	C.V.	Std. error	Rhythm %
Total	23.8	32.4	8.6	30.1	4.8	2.2	7.6	0.6	-1.9
Urban	9.2	13.6	4.4	36.8	1.3	1.2	9.6	0.3	-2.7
Rural	14.6	18.8	4.2	25.2	1.1	1.1	6.3	0.3	-1.4

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

The arithmetic average of the data analysed for the birth rate in the South-Muntenia Region was 28.6 thousand births. The calculated median value of the analysed data set shows a value of 28.2 thousand newborns (Table 7).

Regarding the analysis of the dispersion indicators for the period analysed, we identify the minimum value of the period in 2020, of 23.8 thousand newborns, and the maximum value was recorded in 2009, being 32.4 thousand newborns (Table 7).

The coefficient of variation shows low values, varying for the criteria analysed between 7.6% (birth rate - general) and 9.6% (birth rate - urban), indicating the homogeneous nature of the data analysed. The rate also shows negative values, indicating a general trend of decreasing birth rates (Table 7).

Analysing the evolution of mortality in the South-Muntenia Region, it can be seen that in 2020 the number of deaths increased by 18% compared to 2007. This phenomenon was recorded in both urban and rural areas, but in urban areas it was more intense. On the one

hand, the stress of large urban agglomerations contributes to a somewhat lower life expectancy than in rural areas, and on the other hand, elderly people in rural areas who experienced difficulties in travelling and caring for themselves were brought to urban areas by their legal guardians in order to be properly cared for (Table 8).

Thus, in the case of urban mortality, there was a decrease of about 29% in 2020 compared to

2007, while in the case of the rural population the decrease over the same period was 8.8% (Table 8).

The arithmetic average of the data series analyzed for mortality registered in the South-Muntenia Region was 260.2 thousand deaths. The calculated median value of the analyzed data set is 258.1 thousand deaths (Table 8).

Table 8. Mortality analysis in the South-Muntenia Region by residence (thousands of deaths)

Specificare	2007	2013	2014	2015	2016	2017	2018	2019	2020
Total	252.0	250.5	255.6	263.0	258.9	262.8	265.5	260.4	297.3
Urban	114.6	116.4	119.4	123.7	123.0	124.9	127.0	125.4	147.9
Rural	137.4	134.1	136.2	139.3	135.9	137.9	138.5	135.0	149.5
Location indicators									
Crt.	Count	Arithmetic mean	Geometric mean	Harmonic mean	Median	QUARTILE			
						Q1	Q2	Q3	
Total	14	260.2	260.0	259.8	258.1	253.8	257.2	261.0	
Urban	14	121.6	121.4	121.1	118.5	116.2	117.7	124.0	
Rural	14	138.6	138.5	138.5	137.9	136.3	137.9	139.0	
Dispersion indicators									
Specification	Min.	Max.	Abs. Ampl.	Rel. Ampl.	Variance	Std. dev.	C.V.	Std. error	Rhythm %
Total	250.5	297.3	46.9	18.0	135.7	11.6	4.5	3.1	1.3
Urban	114.4	147.9	33.5	27.6	76.5	8.7	7.2	2.3	2.0
Rural	134.1	149.5	15.4	11.1	14.6	3.8	2.8	1.0	0.6

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Regarding the analysis of the dispersion indicators for the period analyzed, we identify the minimum value of the period in 2013, of 250.5 thousand deaths, and the maximum value was recorded in 2020, being 297.3 thousand deaths (Table 8).

The coefficient of variation shows low values, varying for the criteria analyzed between

2.8% (mortality - rural) and 7.2% (mortality - urban), indicating the homogeneous nature of the data analyzed. The rate also shows positive values, which indicates a general trend of increasing mortality among the population of the South-Muntenia region (Table 8).

Table 9. Analysis of the natural increase at the level of the South-Muntenia Region, according to the area of residence (thousands of persons)

Specificare	2007	2013	2014	2015	2016	2017	2018	2019	2020
Total	-37.2	-35.5	-53.1	-56.8	-49.3	-47.9	-50.9	-57.2	-118.7
Urban	1.8	1.7	-9.0	-10.1	-7.9	-6.1	-7.8	-13.6	-52.7
Rural	-39.0	-37.2	-44.1	-46.7	-41.3	-41.8	-43.0	-43.7	-66.0
Location indicators									
Crt.	Count	Arithmetic mean	Geometric mean	Harmonic mean	Median	QUARTILE			
						Q1	Q2	Q3	
Total	14	-52.1	-	-	-50.1	-55.0	-49.3	-36.8	
Urban	14	-7.7	-	-	-7.9	-9.2	-7.8	1.7	
Rural	14	-44.4	-	-	-43.4	-46.3	-43.0	-40.2	
Dispersion indicators									
Specification	Min.	Max.	Abs. Ampl.	Rel. Ampl.	Variance	Std. dev.	C.V.	Std. error	
Total	-118.7	-31.3	87.4	-167.7	444.6	21.1	-40.4	5.6	
Urban	-52.7	7.2	59.9	-777.3	208.7	14.4	-187.6	3.9	
Rural	-66.0	-37.2	28.8	-64.8	49.4	7.0	-15.8	1.9	

Source: statistical data processing National Institute of Statistics, Accessed 08.04.2022 [12].

Analysing the evolution of the natural increase in the South-Muntenia Region, it can be observed that, in general, it shows negative values, both in urban and rural areas, with the

exception of the period 2007-2010 and 2013, when positive values were recorded in urban areas (Table 9).

CONCLUSIONS

The social outlook is not at all positive, both nationally and especially in rural areas. Romania's population is tending to decline, influenced by the existing lifestyle, to which various factors contribute, such as the COVID-19 pandemic, but also the military conflicts in the area, which are causing concern [9, 4, 3].

However, there are cities that are experiencing population declines, with people preferring to relocate to peri-urban areas, while benefiting from many of the facilities offered by the city. Truly rural areas have a predominantly ageing population, which is common both in Romania and in the South-Muntenia region, where agriculture is the main activity [10, 21]. They are no longer able to work the land as they used to, preferring to rent it out to the large farmers in the area. In practice, small-scale farming, based mainly on self-consumption, is beginning to disappear, and food is largely purchased from village shops. A viable solution that can effectively focus investment in rural areas could be a rural monitoring platform that identifies the problems and needs of rural communities in a timely manner in order to truly develop rural areas [5, 11].

ACKNOWLEDGEMENTS

This paper is part of the project "Studies on resilience strategies and increasing the competitiveness of family farms by joining associative forms" - project code: code 2021-0017/14.07.2021, funded under internal projects carried out by USAMV Bucharest, Romania.

REFERENCES

[1]Buta, A., Neculita, M., Cristea, D., 2020, Opportunities Of Sustainable Development In The Rural Area At The Level Of Galati County, Romania, Scientific Papers Series Management Economic Engineering In Agriculture And Rural Development, Vol. 20(2), 101-110.
 [2]Cmejrek, J., 2015, Rural Development and Sustainability in Rural Areas, Proceedings of the 9th International Scientific Conference INPROFORUM,

Common Challenges, Different solutions, Mutual dialogue, 27-30.

[3]Coman, C.N., Tudor, V.C., 2019, Demographic Analysis of South Muntenia Region, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.19(2), 75-80.
 [4]Cretu, O.R., Tudor, V.C., 2020, Economic and Social Impact of Associations in Groups of Agricultural Producers- a Case Study in Romania, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.20(2), 183-190.
 [5]Dumitru, E.A., Ursu, A., Tudor, V.C., Micu, M.M., 2021, Sustainable Development of the Rural Areas from Romania: Development of a Digital Tool to Generate Adapted Solutions at Local Level. Sustainability 2021, 13, 11921. <https://doi.org/10.3390/su132111921>, Accessed on 08.04.2022.
 [6]Dumitru, E.A., Badan, D.N., Petre I.L., Bratulescu A.M., 2020, Analysis of agricultural holdings in Romania in terms of size. Scientific Papers-Series Management Economic Engineering In Agriculture and Rural Development, Vol. 20 (1), 193-198.
 [7]Dumitru, E.A., Micu, M.M., Tudor, V.C., 2019, Conceptual approaches regarding the Romanian rural area. Scientific Papers-Series Management Economic Engineering In Agriculture and Rural Development, Vol. 19 (2), 121-127.
 [8]Dumitru, E. A., 2017, The influence of European funds in the viable use of localities necessary for rural areas - case study, place. Ciugud, Alba County, International Symposium, Agrarian Economy and Rural Development - Real Situations and Perspective for Romania, 8th edition of the international symposium, pp. 236-241.
 [9]Iancu, T., Petre, I.L., Tudor, V.C., Micu, M.M., Ursu, A., Teodorescu, F.-R., Dumitru, E.A., 2022, A Difficult Pattern to Change in Romania, the Perspective of Socio-Economic Development, Sustainability 2022, 14, 2350. <https://doi.org/10.3390/su14042350>, Accessed on 08.04.2022.
 [10]Micu, M.M., Dumitru, E.A., Vintu, C.R., Tudor, V.C., Fintineru, G., 2022, Models Underlying the Success Development of Family Farms in Romania, Sustainability 2022, 14, 2443. <https://doi.org/10.3390/su14042443>, Accessed on 08.04.2022.
 [11]Micu, A.R., Tudor, V.C., Dumitru, E.A., 2018, Researches on the Capacity of Marketing Agricultural Crop Production in the South-West Oltenia Region, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.18(4), 187-192.
 [12]National Institute of Statistics.
 [13]Păun, F., 2014, Studies regarding the situation of rural development in Prahova County and the managerial measures which need to be taken, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.14(1), 273-276.

[14]Petre, I.L.; Ion, R.A., 2019, The impacts of the investments in agriculture on economic growth in rural communities in Romania, *Economics of Agriculture*, Vol. 66 (4), 955-963, DOI10.5937/ekoPolj1904955L, Accessed on 08.04.2022.

[15]Popa (Podaru), A.M., Turek Rahoveanu, A., 2019, Population Migration, Cause of The Decline of the Romanian Village, *Proceedings of 33rd IBIMA Conference*, 10 April 2019, 4739-4743.

[16]Serban, V., Turek Rahoveanu, A., 2019, Analysis of Rural Population and Main Rural Infrastructure Issues in Romania in Period 2008-2017, *Proceedings of 33rd IBIMA Conference*, 10-11 April 2019, Granada, Spain, 9454-9460.

[17]Sterie, C.M., Dumitru, E.A., 2021, Comparative analysis on accessing European funds through the two national rural development programs in the South-Muntenia region, Romania. *Scientific Papers-Series Management Economic Engineering In Agriculture and Rural Development*, Vol. 21 (1), 729-734.

[18]Sterie, C.M., Dumitru, E.A., 2020, Research on the evolution of the number of agricultural holdings in the period 2002 - 2016. *Scientific Papers-Series Management Economic Engineering In Agriculture and Rural Development*, Vol. 20 (3), 579-582.

[19]Sterie, C., 2020, Analysis Regarding The Situation Of The Romanian Village - Case Study, Tetoiu Commune, Vâlcea County, Romania, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, Vol.20 (3), 579-582.

[20]Stoica, D.G., Dumitru, E.A., 2021, Aspects that contributed to changes in the price of agricultural land in Romania and other countries in the European Union. *Scientific Papers-Series Management Economic Engineering In Agriculture and Rural Development*, Vol. 21 (1), 565-570.

[21]Teodorescu, R.F., Tudor, V.C., 2019, Demographic Analysis of the Bucharest-Ilfov Region, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, Vol.19(3), 593-597.

