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HOUSING CONDITIONS IN THE ROMANIAN RURAL HOUSEHOLD IN THE 21ST CENTURY

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Abstract: *Living conditions in the rural area are precarious in Romania, our country being at the bottom of the European ranking, and the situation is getting worse as the degree of isolation increases (mainly in the hilly and mountain areas) combined with the precariousness of livelihood resources in these areas (extremely low possibilities of income-gaining employment, as well as with poor coverage of social services (education, healthcare and social assistance services, etc.). The housing conditions in the Romanian rural household reveal a series of disparities, the most obvious being the rural / urban divide, as well as the disparities existing between different rural areas. The main hypothesis of the paper is the following: there is a strong link between the housing conditions and the development level in the rural area, as well as the rurality level. From the methodological point of view, the first stage of the study was the selection of housing indicators, followed by the identification of the correlation between these indicators and the degree of rurality at county level, in the period 2007-2020. The results reveal a strongly significant correlation between the living conditions and the degree of rurality, the important cities functioning as a growth and development pole for the rural areas in their proximity, with beneficial effects on the housing conditions (modernization of dwellings and easy access to utilities).*

Key words: *rural-urban divide, rural dwelling, living conditions, housing strategies*

JEL Classification: R00, R210, I310

INTRODUCTION

The main idea of the paper is the following: the quality of living conditions is closely linked to the socio-economic condition of the family/household, to the degree of rural development of the area, the degree of rurality. Among the deprivations of the Romanian countryside, the most relevant are the following, as reported in the literature (Mărgineanu, 2006):

- the degree of isolation (determined by the difficult access to certain rural areas, deteriorated roads, lack of means of transport) leads to the depopulation of certain communities, mainly located in the hilly and mountain areas;
- lack/scarcity of necessary livelihood resources in certain rural areas characterized by low possibilities of income-gaining activities;
- limited access to public utilities;
- poor supply of social services in certain rural areas.

Unfortunately, there are some areas where these factors are cumulated, resulting in severe deprivations in terms of living conditions, of housing conditions respectively.

MATERIAL AND METHOD

The housing conditions will be evaluated in close connection to the Rural Development Index (Chițea, 2021), and the indicators selected in the calculation are the following:

- *the living area per inhabitant in the rural area* – is an indicator that captures the quantitative aspect of the living conditions;

- *the renewal of dwelling stock* is a relevant indicator for the modernization of dwellings, also revealing the attractiveness of the area for the active population;
- *the quantity of drinking water supplied to the population, the quantity of natural gas supplied to the population* are useful indicators that measure the degree of comfort, as well as the degree of security for the rural residents' health (ensuring minimal hygiene conditions), for carrying out economic activities (thus the existence of these supply networks increase the opportunity to attract investors in the area), as well as from environmental protection perspective.

The statistical method used in measuring the correlation between the housing conditions and the development level of the rural area is based on Pearson correlation¹ that can be positive (in the case of direct correlations), negative (in the case of inverse correlation) or neutral (no influence) between the analysed variables.

RESULTS AND DISCUSSIONS

There was a downward trend of the rural development index in the period 2007-2020, which may seem strange at first sight. But the composition of this index (demographic, social, economic and ecological dimension) should be taken into consideration, as well as its influence on the index (demographic dimension 34.46%, social dimension 29.05%, economic dimension 20.27% and ecological dimension 16.22%), which reveals the particular importance of the demographic and social dimensions, both being in sharp decline (Chitea, L., Dona, I., Chitea, M., 2018).

The rural development index, in the investigated period, reveals the widening of gaps between different rural areas. The classification of counties by the rural development level, in the year 2020, shows the following structure: counties with a good development level (4.88%): Ilfov, Braşov; counties with an acceptable development level (2.44%): Timiş; counties with a medium development level (26.83%): Iaşi, Călăraşi, Satu-Mare, Dâmboviţa, Harghita, Mureş, Alba, Maramureş, Sibiu, Bihor, Suceava; counties with a low development level (41.46%): Tulcea, Sălaj, Neamţ, Gorj, Dolj, Botoşani, Vrancea, Bacău, Covasna, Constanţa, Galaţi, Cluj, Argeş, Arad, Brăila, Bistriţa Năsăud, Hunedoara; counties with a very low development level (24.39%): Olt, Vâlcea, Buzău, Teleorman, Caraş-Severin, Giurgiu, Mehedinţi, Vaslui, Ialomiţa, Prahova. The concentration of more than 60% of the rural areas from Romania in the lower part of the ranking can be noticed.

The links identified through the Pearson correlation between the Rural Development Index and the analysed indicators referring to the housing conditions are direct and highly significant with the indicator Share of new dwellings (+0,638**), as well as with the indicator Quantity of natural gas per inhabitant (+0,643**); a low direct link with the indicator Quantity of drinking water per inhabitant (+0.234) and with the indicator Living area per person (+0.206).

The analysis of aspects regarding housing in the Romanian rural area reveals an increase in the dwelling stock and the living conditions in all the regions and counties of the country, yet the rate of growth is different depending on a number of cumulative factors. Just as the rural development index has as main influence factor the proximity of the development poles, the living conditions keep the same evolution pattern. The more isolated a locality is (generally it is the case of localities located in the hilly and mountain areas), the more precarious the living conditions are, being confronted with a number of synergistic shortcomings, such as: difficult accessibility, lack of livelihood resources,

¹The Pearson correlation coefficient measures the intensity of the relationship between a resultative variable and a factorial variable, and the values that it may take range from -1 to +1, where the values between (0; 0.2) – no link; (0.2;0.5) – a weak link; (0.5; 0.75) – a medium intensity link; (0.75; 0.95) – a strong link; (0.95; 1) – deterministic link.

low employment possibilities in an income gaining activity, limited access to education, healthcare and social services, major drawbacks related to the access to public utilities, etc.

Table 1. Housing indicators by rural development level, in the year 2020

	Rural development level				
	Very low	Low	Medium	Acceptable	Good
RDI 2020	1.02	1.35	1.59	2.04	2.32
Living area per inhabitant (m ² /inhabitant)	20.76	20.59	19.11	24.88	24.74
Share of new dwellings (%)	0.22	0.45	0.55	3.58	1.74
Quantity of natural gas per inhabitant (m ³ /inhabitant)	54.42	78.73	124.17	213.52	454.99
Quantity of drinking water per inhabitant (m ³ /inhabitant)	22.58	26.43	21.66	37.67	39.82

Source: NIS tempo-online, accessed in September 2022

Table 2. Housing indicators by the degree of rurality, in the year 2020

	Rurality		
	Predominantly urban	Intermediate	Predominantly rural
RDI	2.34	1.52	1.29
Living area per inhabitant (m ² /inhabitant)	28.55	20.71	20.12
Share of new dwellings (%)	2.68	0.88	0.29
Quantity of natural gas per inhabitant (m ³ /inhabitant)	624.92	148.50	60.78
Quantity of drinking water per inhabitant (m ³ /inhabitant)	24.69	28.27	23.28

Source: NIS tempo-online, accessed in September 2022

The living area in the countryside significantly increased in the period 2007-2020, from 145,064,495 m² in 2007 to 197,254,950 m² in 2020 (by 35.98%), mainly in the predominantly urban and intermediate rural areas. București-Ilfov region had the highest increase of the living area, even though the region has the lowest share.

Table 3. Evolution of the living area in the countryside in Romania, in the period 2007-2020

Macro-region/region	Year 2007	Year 2020	Evolution 2016 versus 2007	Share in total 2020	Share of macro-regions 2020	Share of region in the macro-region 2020
TOTAL	145,064,495	197,254,950	35.98	100.00		
MACRO-REGION 1	35,847,401	48,031,466	33.99	24.35	24.35	
NORD-VEST Region	19,864,412	27,300,894	37.44	13.84		56.84
CENTRU Region	15,982,989	20,730,572	29.70	10.51		43.16
MACRO-REGION 2	47,118,926	64,430,171	36.74	32.66	32.66	
NORD-EST Region	27,606,627	38,694,842	40.17	19.62		60.06

Macro-region/region	Year 2007	Year 2020	Evolution 2016 versus 2007	Share in total 2020	Share of macro-regions 2020	Share of region in the macro-region 2020
SUD-EST Region	19,512,299	25,735,329	31.89	13.05		39.94
MACRO-REGION 3	31,065,037	43,927,986	41.41	22.27	22.27	
SUD-MUNTENIA Region	27,723,156	36,922,763	33.18	18.72		84.05
BUCURESTI – ILFOV Region	3,341,881	7,005,223	109.62	3.55		15.95
MACRO-REGION 4	31,033,131	40,865,327	31.68	20.72	20.72	
SUD-VEST OLTENIA Region	18,579,148	23,223,077	25.00	11.77		56.83
VEST Region	12,453,983	17,642,250	41.66	8.94		43.17

Source: NIS tempo-online, accessed in September 2022

The living area per person had quite a spectacular evolution in the investigated period, from 15.19 m²/inhabitant in the year 2007 to 20.54 m²/inhabitant in 2020, which can be explained by two contradictory phenomena, namely the decline of the population and of the number of members in the household, on the one hand, and the expansion of the new dwelling stock through the investments of families who worked abroad and through the coming back to the rural areas of city dwellers. There is a gap between different rural areas, also revealed by the hierarchy of counties by average living area, the top counties being Ilfov 28.55 m²/inhabitant, Cluj 25.70 m²/inhabitant, Timiș 24.88 m²/inhabitant; at the bottom of the ranking we can find the counties lacking perspectives or with low perspectives: Iași 16.18 m²/inhabitant, Botoșani 17.09 m²/inhabitant, Vaslui 17.32 m²/inhabitant, Călărași 17.70 m²/inhabitant.

Table 4. Living area per inhabitant in the period 2007-2020

m²/inhabitant

Macro-region/region	2007	2010	2013	2016	2018	2020
TOTAL	14.90	15.55	19.03	19.60	19.97	20.40
MACRO-REGION 1	15.44	16.00	19.30	19.72	19.96	20.27
NORD-VEST Region	15.39	16.14	19.71	20.23	20.54	20.92
CENTRU Region	15.50	15.84	18.79	19.09	19.26	19.48
MACRO-REGION 2	13.76	14.36	17.67	18.14	18.49	18.84
NORD-EST Region	12.93	13.52	16.83	17.24	17.58	17.86
SUD-EST Region	15.13	15.75	19.09	19.66	20.05	20.54
MACRO-REGION 3	14.79	15.70	19.48	20.25	20.74	21.36
SUD-MUNTENIA Region	14.36	15.01	18.54	19.26	19.77	20.38
BUCURESTI – ILFOV Region	19.79	22.93	28.46	28.76	28.45	28.55
MACRO-REGION 4	16.40	16.99	20.68	21.42	21.87	22.40
SUD-VEST OLTENIA Region	15.78	16.41	20.04	20.71	21.12	21.61
VEST Region	17.41	17.93	21.68	22.48	22.97	23.52

Source: NIS tempo-online, accessed in September 2022

The analysis of living conditions specific to rural households reveals the following characteristics: the individual house is the fundamental option of farmers: in the year 2007, the share of those benefitting from an individual house was 94.9%, up to 97.9% in 2020; the quality of living conditions increased: the share of rural households with dwelling problems was lower, in the period

2007-2020, from 49.3% to 17.8% (Mărginean I., 2010). In the list of problems existing in the rural household, the hierarchy is the following: share of households with problems “damaged window frames, walls or floors” – increased from 61.2% in 2007 to 63.3% in 2020; the share of those with “dampness in walls, floors, foundation” – increased from 42.3% in 2007 to 47% in 2020; the share of those with “leaks through the roof or walls” – increased from 30.5% in 2007 to 31.5% in 2020; the share of those with “insufficient light” – increased from 15.5% in 2007 to 27.6% in 2020.

The number of rooms in the rural household had significant evolutions for all types (1-2 rooms; 3-5 rooms; 6 rooms and more); in the same period, 2007-2020, there was an increase from 59.5% to 70.3% for the rural households with dwellings with 3 – 5 rooms; from 2.9% to 3.5%, for the rural households with 6 or more rooms and a decrease from 37.6% to 26.2% for the dwellings with 1-2 rooms (INS, 2007 și 2020). The share of rural dwellings by the endowment with utilities significantly increased in the period 2007-2018, with a diminution of the rural-urban divide, yet the difference remains significant.

Table 5. Endowment with utilities of dwellings, by residence areas, years 2007 and 2020 (%)

Specification	2007	2020
Urban		
With bathroom/shower inside the dwelling	87.5	96.3
With sanitary group (toilet) inside the dwelling	87.4	95.8
Rural		
With bathroom/shower inside the dwelling	20.4	56.7
With sanitary group (toilet) inside the dwelling	16.5	55.2

Source: NIS tempo-online, accessed in September 2022

The share of new dwellings is an indicator that captures modernization through the renewal of the housing space. In the case of this indicator, the category of counties with acceptable modernization-development level stands out, with the highest share of new dwellings, which continued to increase, from 1.35% in 2007 to 3.58% in 2020; all the other categories have low values, with a decreasing trend, ranging from 0.22% for the counties with very low development level to 1.74% for the counties with good development level.

Table 6. Share of new dwellings in total dwellings in the rural area, in the period 2007-2020

Macro-region/region	2007	2010	2013	2016	2018	2020
TOTAL	0.62	0.68	0.58	0.60	0.60	0.62
MACRO-REGION 1	0.49	0.60	0.51	0.63	0.68	0.64
NORD-VEST Region	0.52	0.72	0.61	0.76	0.86	0.75
CENTRU	0.45	0.45	0.37	0.47	0.45	0.49
MACRO-REGION 2	0.78	0.79	0.62	0.62	0.56	0.52
NORD-EST Region	0.77	0.84	0.70	0.70	0.62	0.57
SUD-EST Region	0.79	0.71	0.51	0.49	0.47	0.45

Macro-region/region	2007	2010	2013	2016	2018	2020
MACRO-REGION 3	0.74	0.85	0.71	0.64	0.66	0.68
SUD-MUNTENIA Region	0.52	0.65	0.49	0.43	0.44	0.42
BUCURESTI – ILFOV Region	3.29	2.96	2.72	2.42	2.45	2.68
MACRO-REGION 4	0.41	0.41	0.43	0.49	0.53	0.67
SUD-VEST OLTENIA Region	0.33	0.32	0.28	0.19	0.20	0.19
VEST Region	0.55	0.57	0.72	1.03	1.10	1.50

Source: NIS tempo-online, accessed in September 2022

The share of new dwellings remained relatively the same in the period 2007-2020, the national average being 0.62%; values greater than one were found in the rural areas from București-Ilfov (2.68%) and Vest regions (1.50%), namely in the counties Timiș (3.58%), Ilfov (2.68%), Cluj (1.89%), Sibiu (1.41%) and Constanța (1.01%). The share of new dwellings increased only in 12 counties, namely in Timiș, Cluj, Sibiu, Giurgiu, Brașov, Bihor, Arad, Iași.

It is worth noting that there are rural localities in the proximity of cities that attract the retired population from cities who prefer to return to the countryside, as well as young persons for whom the rural area is a refuge for the weekend. This phenomenon may contribute to the increase in the number of new dwellings.

The indicators *quantity of natural gas supplied to the population* and *quantity of drinking water supplied to the population* are relevant for measuring the degree of rural area modernization through the increase in the degree of comfort as well as the degree of health security of rural people (ensuring minimum hygiene conditions), for the development of economic activities (the existence of these networks increase the chances for the area to attract investors), as well as from the perspective of environmental protection.

In the Romanian rural area, the drinking water supply and sewerage networks are less extended on rural households. Even though there are drinking water supply and sewerage networks at the level of the locality, the households cannot use them, as there are no equipped kitchens and bathrooms on the households, and the rural people do not have the possibility to make investments to have access to these utilities. In the rural households, only 8% of the population uses the sewerage network.

Table 6. Quantity of drinking water supplied per inhabitant in the rural areas, 2007-2020

m³/inhabitant

Macro-region/region	2007	2010	2013	2016	2018	2020
TOTAL	15.71	16.51	18.01	19.50	20.86	23.14
MACRO-REGION 1	21.37	21.99	22.04	23.45	25.08	27.06
NORD-VEST Region	16.98	20.84	20.73	21.62	22.96	25.30
CENTRU Region	26.86	23.42	23.66	25.70	27.67	29.22
MACRO-REGION 2	13.04	12.77	13.64	14.54	15.67	17.44
NORD-EST Region	6.36	6.26	7.01	8.30	9.68	10.18
SUD-EST Region	24.11	23.59	24.73	25.16	25.93	30.01
MACRO-REGION 3	12.84	15.02	16.87	18.34	20.10	24.41
SUD-MUNTENIA Region	12.67	14.89	16.53	18.74	20.41	24.37

Macro-region/region	2007	2010	2013	2016	2018	2020
BUCURESTI – ILFOV Region	14.86	16.45	20.15	14.94	17.61	24.69
MACRO-REGION 4	16.79	18.20	22.27	25.01	25.96	27.29
SUD-VEST OLTENIA Region	13.11	13.86	15.09	17.39	18.31	19.78
VEST Region	22.84	25.11	33.40	36.50	37.24	38.04

Source: NIS tempo-online, accessed in September 2022

At national level, the average amount of drinking water supplied to the population is 23.14 m³/inhabitant in the year 2020. The territorial differences are obvious across macro-regions, regions and counties, and the smaller the territorial unit, the greater the differences:

- at macro-regional level, from 17.44 m³/inhabitant in Macro-region 2 to 27.29 m³/inhabitant in Macro-region 4;
- at regional level, from 10.18 m³/inhabitant in Nord-Est region to 38.04 m³/inhabitant in Vest region;
- at county level, from 4.23 m³/inhabitant in Giurgiu county to 57.35 m³/inhabitant in Braşov county.

In the case of rural localities connected to the natural gas network, the natural gas supplied to the population increased in the investigated areas, and the largest quantities and the highest growth rates are mostly found in counties with a high development level, such as Ilfov county, with 693.05 m³/inhabitant, Cluj with 354.41 m³/inhabitant, Braşov with 320.76 m³/inhabitant and Prahova with 302.21 m³/inhabitant.

Table 7. The quantity of natural gas supplied per inhabitant in the rural areas, 2007-2020

Macro-region/region	2007	2010	2013	2016	2018	2020
<i>TOTAL</i>	<i>66.16</i>	<i>66.99</i>	<i>68.30</i>	<i>79.39</i>	<i>96.14</i>	<i>112.66</i>
MACRO-REGION 1	107.90	105.12	101.65	113.23	126.81	148.75
NORD-VEST Region	56.96	68.55	75.08	84.91	95.60	112.06
CENTRU Region	171.64	150.49	134.45	148.04	165.14	193.74
MACRO-REGION 2	32.53	23.80	24.05	31.77	42.45	53.55
NORD-EST Region	41.40	28.22	22.92	28.24	41.22	55.31
SUD-EST Region	17.85	16.44	25.93	37.78	44.57	50.50
MACRO-REGION 3	86.78	114.90	127.39	147.80	185.07	201.23
SUD-MUNTENIA Region	64.02	80.31	87.15	99.26	128.79	143.83
BUCURESTI – ILFOV Region	347.04	481.18	511.52	566.65	632.63	624.92
MACRO-REGION 4	52.92	45.18	41.48	47.77	56.45	76.74
SUD-VEST OLTENIA Region	8.75	20.70	15.37	19.85	23.39	32.88
VEST Region	125.64	84.19	81.91	89.88	105.23	139.57

Source: NIS tempo-online, accessed in September 2022

The national average quantity of natural gas supplied to the population is 125.83 m³/inhabitant, with significant differences across counties, regions and macro-regions:

- **at macro-regional level**, from 60.47 m³/inhabitant in Macro-region 2 to 226.21 m³/inhabitant in Macro-region 3;
- **at regional level**, from 38.69 m³/inhabitant in Sud-Vest region to 693.05 m³/inhabitant in București-Ilfov region;
- **at county level**, from 0 m³/inhabitant in Mehedinți county to 693.05 m³/inhabitant in Ilfov county.

CONCLUSIONS

From the analysis of the link between the indicators of housing and rurality, the rural development level respectively, an increase of discrepancies between the developed and underdeveloped areas, with diametrically opposite trends, can be noticed, as follows: the developed rural areas continue to have access to resources, which also translates into the housing size, the increase of living conditions (new dwellings, more generous spaces, access to utilities, housing equipment, etc.); at the same time, the underdeveloped rural areas are confronted with a high depopulation level, a high degradation of living conditions (many deserted dwellings, under a high degradation process, while the populated dwellings most often do not have adequate living conditions out of the lack of financial resources, small-sized unsanitary dwellings, lack of access to utilities, etc.

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