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**ANNALS OF THE POLISH ASSOCIATION
OF AGRICULTURAL AND AGRIBUSINESS ECONOMISTS**

ROCZNIKI NAUKOWE
STOWARZYSZENIA EKONOMISTÓW ROLNICTWA I AGROBIZNESU

Received: 02.05.2023

Annals PAAAE • 2023 • Vol. XXV • No. (2)

Acceptance: 16.06.2023

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Published: 20.06.2023

DOI: 10.5604/01.3001.0053.6817

JEL codes: O18, R2

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**QUALITY OF HOUSING CONDITIONS IN RURAL AREAS
IN POLAND AT VOIVODESHIP LEVEL**

Key words: housing conditions, quality of housing conditions, housing environment, rural households, rural areas, TOPSIS

ABSTRACT. The aim of the research was to conduct a multidimensional assessment of the quality of housing conditions in rural households of different voivodeships (provinces) in comparison to households in Poland overall. The research involved separate evaluations of the quality of internal and external housing conditions. Internal housing conditions pertained to the dwellings themselves and included the standards of their use and the presence of sanitary and technical installations. External housing conditions characterized the housing environment, including nuisances related to noise, crime, and deficiencies in technical and service infrastructure. The overall assessment of the quality of housing conditions encompassed both internal and external indicators. These assessments were based on the values of synthetic indicators determined using the TOPSIS method. The analyses were conducted using individual non-identifiable data from the “Household Budget Survey” carried out by the Central Statistical Office in 2021. For half of the voivodeships, the quality of internal housing conditions in rural households was assessed as average, while in the Łódzkie Voivodeship, it was assessed as low. A very high rating was obtained for seven voivodeships: Śląskie, Opolskie, Podkarpackie, Małopolskie, Lubuskie, Wielkopolskie, and Pomorskie. On the other hand, the quality of external conditions was assessed as high only in the Małopolskie and Podkarpackie Voivodeships, while in the Łódzkie Voivodeship, it was also assessed as low.

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INTRODUCTION

Since the Neolithic revolution, housing has been one of the fundamental aspects of the existence and functioning of a household. Primarily, it provides shelter and a sense of security, satisfying the basic needs of household members without which the full development of higher-order needs would not be possible [Kalinowski 2015, Oleńczuk-Paszela, Sompolska-Rzechuła 2017, Głowicka-Wołoszyn et al. 2019, 2021, 2022]. The availability of housing, its standard, and the surrounding environment make housing a key social and economic issue in Poland and many other countries. Hence, many legal regulations emphasize the rights to a dignified life in appropriate housing conditions [Universal Declaration of Human Rights by the United Nations, European Social Charter by the Council of Europe, Constitution of the Republic of Poland].

Due to a lack of a clear definition of “housing conditions”, this concept is generally understood intuitively and defined by a set of indicators chosen by researchers. However, conducted studies indicate the multidimensionality of this phenomenon [among others Ulman 2011, Głowicka-Wołoszyn et al. 2018, 2019, 2021, Ulman, Ćwiek 2020] and the possibility of considering it in a multi-aspect dimension.

As emphasized by Andrzej Matczak [2014], prior to the period of systemic transformation, research on housing conditions primarily focused on the dwelling itself. It was only the intensification of phenomena related to its surroundings, especially the privatization of public space (the issue of gated communities), that sparked increased interest in this aspect. However, a broader concept of housing conditions, encompassing not only internal but also external aspects, was already present in Polish literature earlier, as it was introduced in 1979 by Jerzy Dzieciuchowicz [cited in: Milewska-Osiecka, Ogrodowczyk 2015].

Housing conditions – whether internal or external – are most commonly defined by objective indicators, such as the size of dwellings, their occupancy, the presence of technical and sanitary installations, access to pharmacies and preschools, and proximity to public transportation. Romana Głowicka-Wołoszyn and colleagues [2021] expanded the concept of housing conditions to include some of the ideas of quality of life. Housing conditions encompass not only the living space itself and its standards but also the surrounding environment, both described through objective and subjective indicators. These indicators not only objectively measure and define the conditions in which individuals reside but also assess their perception of adequacy in meeting needs or addressing the burdens they experience. In this framework, conditions pertaining to the dwellings themselves, such as the presence of technical and sanitary installations, but extended to encompass satisfaction with their functioning and technical condition, can be referred to as “internal housing conditions”.

Satisfaction with housing conditions is also influenced by the surrounding environment, including the absence of environmental pollution, natural qualities, proximity to

recreational areas, satisfaction with economic infrastructure (access to commercial and service networks), and the absence of threats related to crime, violence, and vandalism. In multi-unit dwellings – such as townhouses and apartment buildings – relationships with neighbours also play a significant role [Głowicka-Wołoszyn et al. 2021]. These contextual factors, along with the satisfaction of household residents with their presence, can be described as “external housing conditions”.

As demonstrated by the research conducted by Romana Głowicka-Wołoszyn and colleagues [2021], one of the main factors differentiating housing conditions is the class of the residential locality. Studies conducted between 2005 and 2017 have shown a dynamic improvement in housing conditions in rural households and their convergence with households residing in other classes of localities. These studies have also revealed significant variations in the assessment of housing conditions among different voivodeships. Other research by Romana Głowicka-Wołoszyn and colleagues [2018] focusing on the standard and equipment of dwellings in terms of technical and sanitary installations indicated considerable disparities between voivodeships.

The aim of the research was a multidimensional assessment of the quality of housing conditions in rural households across various voivodeships, in comparison to the overall population of households in Poland. This assessment was based on objective indicators of dwelling usage standards and the presence of sanitary and technical installations, as well as subjective indicators related to satisfaction with these conditions and satisfaction with the surrounding environment, such as noise and air pollution. Furthermore, separate evaluations of internal and external conditions were conducted based on relevant indicators.

MATERIAL AND RESEARCH METHODS

The research drew on non-identifiable microdata provided for a fee by the Central Statistical Office in Warsaw. These data were derived from the “Household Budget Survey”² (HBS) conducted by the CSO in 2021, encompassing 30,867 households (H). The unit of analysis in this study was the household, and the data were aggregated at the level of voivodeships and the country. The results for rural households in different voivodeships were analysed in comparison to all rural households and the overall population of households in Poland, regardless of their place of residence. The assessments of housing conditions were conducted three times. The quality of internal and external housing conditions was evaluated separately based on obtained synthetic indicators, and then an overall assessment of housing conditions was made [cf. Głowicka-Wołoszyn et al. 2021, 2022]. The synthetic indicator of the quality of internal housing conditions (SI-IHC)

² The survey is conducted on a yearly basis by the CSO in Warsaw using the representative method, which allows for generalising the results to the overall households in Poland [CSO 2018].

Table 1. Partial indicators that form the basis for a synthetic assessment of the quality of housing conditions

Indicator character	Description of indicators	Stimulant (S)/ Deterrent (D)	Construed synthetic indicators
Objective	Surface area of the apartment per person [m ² /person]	(S)	Indicator of the quality of internal housing conditions (SI-IHC)
	Number of persons per room [persons/room]	(D)	
	Share of expenditure on housing and energy carriers in consumer expenditures [%]	(D)	
	Percentage of apartments with access to running water [%]	(S)	
	Percentage of apartments with a bathroom [%]	(S)	
	Percentage of apartments with a flush toilet [%]	(S)	
	Percentage of apartments with air-conditioning [%]	(S)	
Subjective	Percentage of apartments with suitable technical and sanitary conditions [%]	(S)	Indicator of the quality of external housing conditions (SI-EHC)
	Percentage of apartments with a functional heating system [%]	(S)	
	Percentage of apartments with windows and floors in poor technical condition [%]	(D)	
	Percentage of apartments with damp walls, floor and foundations [%]	(D)	
	Percentage of apartments adequately warm in winter [%]	(S)	
	Percentage of apartments adequately cool in summer [%]	(S)	
	Percentage of apartments located in a noisy area (e.g., traffic, industrial facilities, noisy neighbours) or in a polluted environment (e.g., dust, smoke, unpleasant odours) [%]	(D)	
	Percentage of apartments located in an area threatened by crime, violence, vandalism, or near slums [%]	(D)	
	Percentage of apartments located in an area with poor infrastructure [e.g., lack of basic shops, lack of access roads [%]	(D)	
	Percentage of apartments located in an area with particular advantages (e.g., prestigious district, resort area) [%]	(S)	

Source: own elaboration based on non-identifiable microdata [CSO 2021]

was analysed using partial objective indicators regarding the use of the dwelling, its equipment with utility and sanitary devices, as well as subjective indicators expressing households' satisfaction with the technical-sanitary installations they possessed, their technical condition and functioning, such as ensuring residents' thermal comfort (Table 1).

According to the definition of housing conditions proposed by Romana Głowicka-Wołoszyn and her team [2020], their evaluation should also include indicators characterizing the housing environment, such as environmental pollution, noise, crime risk, and deficiencies in infrastructure. The subjective nature of the partial indicators available in the "Household Budget Survey" describing the housing environment in terms of pollution, safety, infrastructure, and attractiveness, as assessed by the household reference person, allowed for the construction of a synthetic indicator of the quality of external housing conditions (SI-EHC). The compilation of all partial indicators forming the basis for the construction of synthetic indicators is presented in Table 1. It is also indicated which of the analysed partial indicators were adopted as stimulants (S) and which as deterrents (D) in the assessment of the quality of housing conditions.

Based on the values of each synthetic indicator, an assessment of the quality of housing conditions (internal and external) was made, adopting arbitrary criteria:

- class I (very high assessment of housing conditions): (0.8;1.0)
- class II (high assessment of housing conditions): (0.6;0.8)
- class III (average): (0.4;0.6)
- class IV (low): (0.2;0.4)
- class V (very low assessment of housing conditions): (0;0.2).

Linear ordering of the analysed rural household groups by voivodeships was also carried out. Synthetic indicators of the quality of internal housing conditions (SI-IHC), external housing conditions (SI-EHC), and the overall indicator of housing conditions (SI-HC) were constructed using the TOPSIS method [Hwang, Yoon 1981, Głowicka-Wołoszyn et al. 2021, 2022].

EMPIRICAL RESEARCH RESULTS

According to the "Household Budget Survey" (SHB) conducted by the CSO in 2021, rural households accounted for 32.6% of households in Poland (Figure 1).

The highest proportion of rural households³ was recorded in the Podkarpackie Voivodeship, where they constituted over half of the total (52.47%). A relatively high percentage of rural households, around 48%, was also found in the Świętokrzyskie and Lubelskie Voivodeships. Additionally, a relatively high proportion of rural households

³ When calculating the percentage share of individual household groups, representative weights were taken into account according to the methodology used by the CSO in the "Household Budget Survey" [CSO 2018].

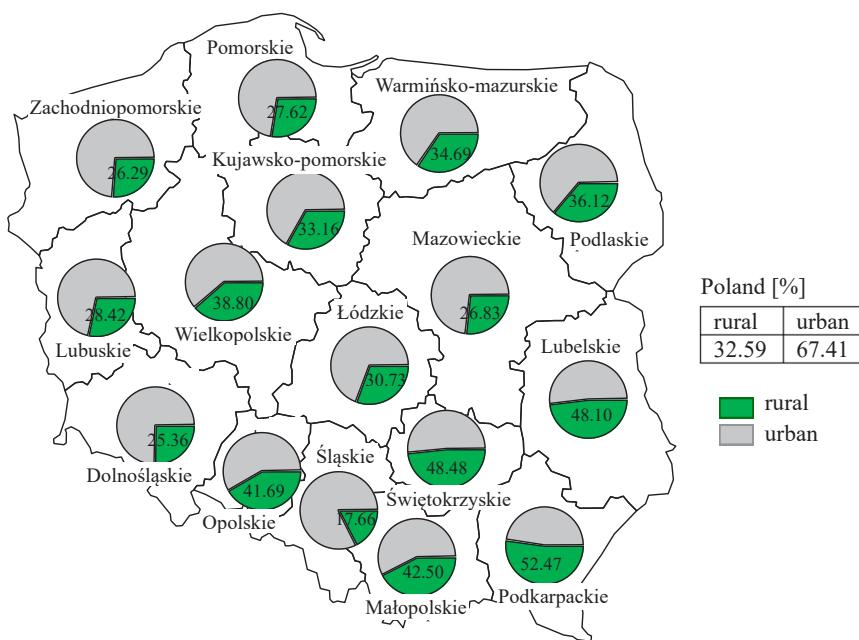


Figure 1. Percentage share of rural households in the total number of households
Source: own elaboration based on non-identifiable microdata [CSO 2021]

(approximately 42%) was observed in the southern regions of Poland, namely the Małopolskie and Opolskie Voivodeships. An exception in southern Poland was the most urbanized Śląskie Voivodeship, which had the lowest percentage of rural households, amounting to only 17.66% (Figure 1).

ONE-DIMENSIONAL ASSESSMENT OF HOUSING QUALITY OF RURAL HOUSEHOLDS IN POLAND

One of the characteristic features of rural households' housing is their larger area. This is mainly related to lower land prices in rural areas compared to urban areas, lower construction and finishing costs, as well as lower housing costs resulting, among others, from the absence of rent [Głowicka-Wołoszyn et al. 2021]. In rural areas of Poland, the average housing area per person in a household in 2021 was 45.3 m^2 , while it was 6.7 m^2 smaller for the overall population. The highest average values of this indicator for rural households, exceeding 51 m^2 , were recorded in the Śląskie and Opolskie voivodeships, while the lowest (38.8 m^2) was observed in the Zachodniopomorskie Voivodeship (Table 2). Expenditures on housing and energy consumption in rural areas in 2021 accounted

for 19.7% of consumption expenditures, which was 2.5 percentage points (p.p.) higher compared to the overall households. The lowest burden on household budgets in this regard was observed in the rural areas of the Lubelskie (16.3%) and Podkarpackie (16.8%) voivodeships. On the other hand, the highest such burdens were observed in the rural areas of the Wielkopolskie Voivodeship (22.8%), surpassing those for the overall households in Poland.

In rural households, slightly lower occupancy was noted, measured by the indicator of the number of people per room. In rural areas, the value of this indicator was 0.92 persons per room, while for the overall households in Poland, it was 0.95. Only in rural areas of the Kujawsko-Pomorskie and Warmińsko-Mazurskie voivodeships did the indicator values exceed 1 person per room (Table 2).

The vast majority of households (96.7% overall and 95% rural in 2021) were inhabited independently, as the sole occupants of the house or apartment (Table 2). Only in the rural areas of the Podkarpackie Voivodeship, this percentage was significantly lower, reaching 86.4%. This is the only voivodeship where more than half of the households are located in rural areas, but at the same time, they are the least affluent compared to households in other voivodeships. The average total monthly expenditures in rural households in Podkarpackie amounted to PLN 901 per person per month, which was 18% lower than the average expenditures in rural households in Poland and 31% lower compared to the overall households. On the one hand, the relative poverty of the region may result in more severe consequences in terms of housing issues and the lack of opportunities for independent living. At the same time, the absence of large metropolises and weaker development of suburbanization processes means that rural areas serving residential functions are few in Podkarpackie; those areas in other voivodeships raise the average level of affluence in rural households. On the other hand, the region's greater traditionalism and family patterns may contribute to the fact that multi-generational families – once associated with rural households – more frequently inhabit houses in rural areas of the Podkarpackie Voivodeship compared to other regions.

Over 98% of households located in rural areas in Poland had access to running water, were equipped with a bathroom, and had a flush toilet. The worst situation in this regard was observed in 2021 in the rural areas of the Lubelskie Voivodeship, where approximately 4% of households did not have a bathroom and flush toilet in their homes, and 2.5% did not have access to running water (Table 2). The presence of air conditioning in homes or apartments was rare in Polish households, with only 2.6% having this amenity, and even less in rural areas by 0.3 p.p. Rural areas in Dolnośląskie stood out in this respect, where 4.2% of households had air conditioning. On the other hand, this amenity was least common in the homes of rural households in Zachodniopomorskie (only 0.4%).

In rural areas, the percentage of households assessed to have a functional installation (sewerage, water supply, electricity, and gas) was 97.9%, which was only 0.7 p.p. lower

Table 2. The general characteristics of objective indicators of standards and technical sanitary equipment in dwellings used by households residing in rural areas compared to the overall average in 2021

Household location	Surface area of the apartment per 1 household member [m ² /person]	Number of people per room [person/room]	Percentage of households living independently as the only ones in the house/apartment [%]	Percentage of households using a second home/apartment as owners that meets the conditions for year-round living [%]
Rural areas	Dolnośląskie	46.4	0.88	95.0
	Kujawsko-pomorskie	41.5	1.01	94.9
	Lubelskie	45.6	0.98	93.6
	Lubuskie	47.9	0.87	93.4
	Łódzkie	44.8	0.91	98.0
	Małopolskie	45.5	0.98	96.9
	Mazowieckie	47.7	0.87	93.3
	Opolskie	51.1	0.84	94.5
	Podkarpackie	43.2	0.93	86.4
	Podlaskie	50.5	0.85	95.5
	Pomorskie	42.4	0.97	92.7
	Śląskie	51.5	0.80	96.6
	Świętokrzyskie	44.4	0.93	93.7
	Warmińsko-mazurskie	40.7	1.02	98.0
	Wielkopolskie	42.4	0.91	95.5
	Zachodniopomorskie	38.8	0.95	98.5
	In Poland	45.3	0.92	95.0
Total in Poland		38,6	0.95	96.7
				2.3

than the overall rate (Table 3). The variation between rural households in individual voivodeships was only 4 p.p. The highest percentage of households satisfied with the technical-sanitary conditions was observed in the Śląskie Voivodeship (99.7%), while the lowest was in the Łódzkie Voivodeship (95.7%).

The percentage of rural households with a positive assessment of the heating installations was also high (98.5%). In rural areas, this percentage was slightly lower (by 0.4 p.p.) than the overall rate for households in Poland (Table 3). The highest percentage

Table 2. Cont.

Household location	Average monthly total expenses [PLN/ person/ month]	Share of expenses on housing and energy carriers in consumer expenditures [%]	Percentage of apartments/ houses possessing [%]				
			access to running water	bath-room	flush toilet	air-conditioning	
Rural areas	Dolnośląskie	1,383	20.3	98.8	98.6	98.1	4.2
	Kujawsko-pomorskie	1,128	21.8	99.0	99.3	99.6	0.7
	Lubelskie	1,095	16.3	97.5	95.9	95.9	2.5
	Lubuskie	1,178	20.6	100.0	99.8	99.8	2.5
	Łódzkie	1,124	21.0	97.5	96.3	96.3	1.5
	Małopolskie	969	19.2	99.2	98.9	99.1	2.9
	Mazowieckie	1,116	19.4	98.4	97.7	97.8	2.7
	Opolskie	1,179	19.2	99.5	99.2	98.7	3.7
	Podkarpackie	901	16.8	99.2	99.2	99.2	0.6
	Podlaskie	934	17.0	98.0	97.3	96.9	1.0
	Pomorskie	1,427	19.4	98.9	99.1	99.1	2.8
	Śląskie	1,235	20.7	100.0	99.7	99.4	3.2
	Świętokrzyskie	976	19.6	98.5	96.8	97.3	1.1
	Warmińsko-mazurskie	1,145	20.7	98.7	99.1	98.3	1.0
	Wielkopolskie	1,071	22.8	99.7	99.5	99.5	2.9
	Zachodniopomorskie	1,206	20.2	99.3	99.5	99.8	0.4
	In Poland	1,105	19.7	98.9	98.4	98.4	2.3
Total in Poland		1,316	22.2	99.4	99.0	99.2	2.6

Source: own elaboration based on non-identifiable microdata [CSO 2021]

of satisfied individuals in rural households was observed in the Śląskie and Wielkopolskie voivodeships (99.5%), while the lowest was in the Mazowieckie Voivodeship (96.9%).

In a small percentage of rural households (only 1.7%), the technical condition of windows and floors in their homes was assessed as poor, and they indicated problems with dampness on walls and floors (2.1%). Compared to the overall households in Poland, these problems occurred slightly more frequently in rural areas (by 0.4 p.p.). There was significant variation between voivodeships in these assessments. Problems with the poor condition of windows and floors, as well as dampness in homes, were reported more

than twice as often among residents of rural households in Zachodniopomorskie and Dolnośląskie, and dampness issues were also observed in Łódzkie. The least frequent occurrence of these problems was reported in Podkarpackie Voivodeship, with only 0.5% of rural households experiencing them (Table 3).

As many as 97% of rural households rated their homes as adequately warm in winter and cool in summer (Table 3). Higher percentages of households in rural areas were satisfied with their thermal comfort compared to the overall average (0.2 and 1 p.p. higher, respectively). The lowest level of satisfaction was observed in Zachodniopomorskie Voivodeship, where only

Table 3. Indicators of subjective assessment of housing standards, equipment with technical-sanitary devices, and housing environment used by households residing in rural areas compared to the overall population in 2021

Household location	Percentage of apartments/houses possessing [%]				Percentage of apartments/houses [%]		
	appropriate technical-sanitary conditions	efficient heating installation	windows, floors in poor technical condition	damp walls, floors, foundations	sufficient warmth in winter	sufficiently cool in summer	
Rural areas	Dolnośląskie	96.8	98.0	3.2	5.7	94.5	94.8
	Kujawsko-pomorskie	98.8	99.3	1.1	1.9	97.6	98.6
	Lubelskie	96.6	97.8	1.4	0.9	96.1	96.4
	Lubuskie	99.2	98.9	1.3	2.6	96.1	95.6
	Łódzkie	95.7	98.0	2.7	3.9	95.3	97.4
	Małopolskie	98.6	99.1	1.2	1.9	98.5	97.8
	Mazowieckie	96.2	96.9	1.7	2.1	96.0	95.7
	Opolskie	98.7	99.0	1.2	2.2	98.5	99.3
	Podkarpackie	99.1	99.2	0.5	0.5	98.7	99.1
	Podlaskie	97.8	98.3	2.0	1.7	99.0	99.4
	Pomorskie	98.7	98.8	0.7	2.0	97.3	97.9
	Śląskie	99.7	99.5	1.5	0.7	98.5	98.2
	Świętokrzyskie	97.5	98.4	1.7	2.3	94.5	94.7
	Warmińsko-mazurskie	97.8	98.2	2.3	2.2	96.8	95.8
	Wielkopolskie	98.8	99.5	1.5	1.7	98.2	98.1
	Zachodniopomorskie	98.2	99.2	3.9	4.3	94.1	93.4
In Poland		97.9	98.5	1.7	2.1	97.0	97.1
Total in Poland		98,6	98.9	1.3	1.7	96.8	96.1

Table 3. Cont.

Household location	Percentage of apartments/houses in an area [%]				
	noisy (e.g., traffic, factories, noisy neighbours) or in a polluted environment (e.g., dust, fumes, unpleasant odours)	at risk of crime, violence, vandalism, in the vicinity of slums	poor infrastructure (e.g., lack of basic shops, lack of access roads)	specific advantages (e.g., prestigious neighbourhood, recreational resort)	
Rural areas	Dolnośląskie	5.9	0.3	9.8	7,2
	Kujawsko-pomorskie	4.2	0.5	8.2	0,6
	Lubelskie	2.1	0.4	6.8	1,8
	Lubuskie	3.7	0.1	9.0	2,0
	Łódzkie	8.7	1.1	9.9	1,3
	Małopolskie	2.3	0.2	1.6	2,3
	Mazowieckie	6.1	0.5	4.1	2,6
	Opolskie	8.8	1.0	4.9	1,1
	Podkarpackie	3.8	0.2	4.6	2,7
	Podlaskie	3.1	0.2	20.1	0,6
	Pomorskie	9.8	1.7	15.6	19,5
	Śląskie	9.5	0.0	5.8	9,9
	Świętokrzyskie	8.4	0.3	3.5	0,9
	Warmińsko-mazurskie	4.4	0.0	21.3	10,5
	Wielkopolskie	9.1	0.1	5.9	1,4
	Zachodniopomorskie	5.1	1.0	20.2	12,4
	In Poland	5.9	0.4	7.7	4,3
Total in Poland		9.2	1.8	3.4	8.6

Source: own elaboration based on non-identifiable microdata [CSO 2021]

94.1% considered their homes adequately warm in winter, and even fewer (93.4%) considered them adequately cool in summer. This may be related to the most commonly reported issues in rural households in this voivodeship, such as the poor condition of windows, floors, dampness in homes, and the lowest percentage of homes equipped with air conditioning. On the other hand, the highest level of satisfaction was noted in Podlaskie Voivodeship, with approximately 99% of rural households expressing satisfaction with their homes.

Residents of households in rural areas very rarely assessed the surroundings of their homes as being threatened by crime, violence, and vandalism. This issue affected only 0.4%

of rural households (compared to 1.8% in Poland overall). The exception was Pomorskie Voivodeship, where over four times the percentage of individuals perceived such threats. In rural households, there were about twice as few reports of inconveniences related to noise, troublesome neighbours, proximity to production facilities, air pollution, including unpleasant odours, compared to the overall average (5.9% and 9.2% respectively). The least occurrence of this issue was reported in the Lubelskie Voivodeship (only 2.1%). On the other hand, in the rural areas of Wielkopolskie, Śląskie, and Pomorskie voivodeships, this problem was reported in 9.1-9.8% of households. Only inconveniences related to access to road and service infrastructure in rural households were reported more than twice as often as in the overall households in Poland (7.7% and 3.5%, respectively). This issue was significantly more prevalent in rural areas of Zachodniopomorskie, Warmińsko-Mazurskie, and Podlaskie voivodeships, where it was observed in every fifth household (Table 3).

THE SYNTHETIC ASSESSMENT OF THE HOUSING CONDITION QUALITY OF HOUSEHOLDS RESIDING IN RURAL AREAS IN POLAND

The quality of internal and external housing conditions for both Polish households and rural households was assessed as average (Figure 2). However, in both groups of households, the values of indicators for the assessment of internal housing conditions (0.557 and 0.577, respectively) were higher than those for the assessment of external housing conditions (0.404 and 0.536, respectively) (Table 4). From these values, it can also be inferred that the quality of internal and external housing conditions was slightly higher in rural households compared to the overall average.

In rural households from the following voivodeships: Pomorskie, Wielkopolskie, Opolskie, Śląskie, Podkarpackie, and Małopolskie, the quality of internal housing conditions was rated highly, but only in the last two voivodeships was the quality of the surrounding environment also highly rated. The high assessment of the quality of external housing conditions in rural areas in Podkarpackie and Małopolskie voivodeships was primarily due to satisfaction with access to technical and service infrastructure, a sense of security, and the absence of nuisances from production facilities rather than perceiving specific advantages of the environment (Figure 2, Table 3 and 4).

In households from the following voivodeships: Zachodniopomorskie, Świętokrzyskie, Mazowieckie, Warmińsko-Mazurskie, Dolnośląskie, Lubelskie, Kujawsko-Pomorskie, and Podlaskie, similar to all rural households in Poland, the quality of their internal and external housing conditions was assessed as average. The values of indicators most similar to the overall rural households were recorded in rural areas of Kujawsko-Pomorskie Voivodeship. In the middle class, significantly lower values of the synthetic indicator for the assessment of internal housing conditions (WJWWM) were observed in six voivodeships

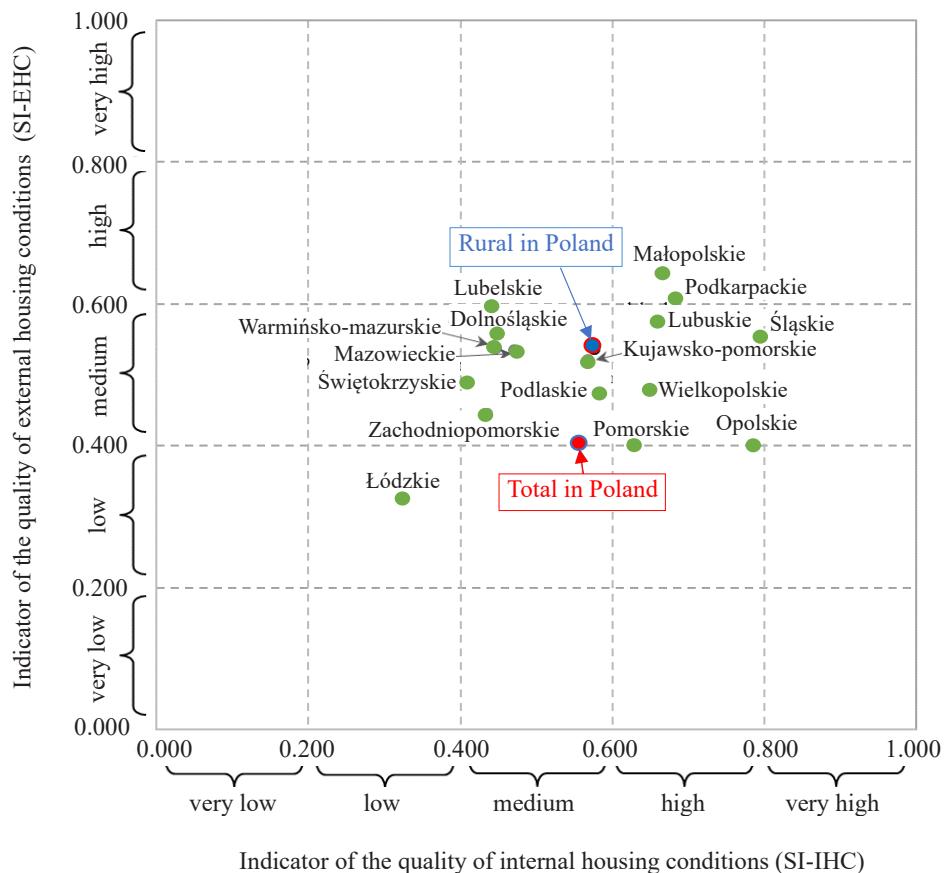


Figure 2. Values of synthetic indicators for the quality of internal (WJWWM) and external (WJZWM) housing conditions in rural households, considering voivodeships

Source: Own elaboration based on unidentified microdata [CSO 2021]

(Dolnośląskie, Lubelskie, Mazowieckie, Warmińsko-Mazurskie, Świętokrzyskie, and Zachodniopomorskie) compared to the overall average (Figure 2, Table 4).

Only in households from rural areas in the Łódzkie Voivodeship were both the quality of their internal housing conditions and the quality of the surrounding environment rated low. As a result, the overall assessment of housing conditions in rural areas in this voivodeship was low, and the voivodeship ranked last in the ranking of housing conditions quality in rural areas (Figure 2, Table 4). No statistically significant correlation was found between the values of synthetic indicators for the quality of internal and external housing conditions (Figure 2).

Table 4. The synthetic assessment of the quality of housing conditions in rural households, taking into account voivodeships and their ranking in 2021

Household location	The assessment of internal housing conditions (WJWWM)*		The assessment of external housing conditions (WJZWM)**		Assessment of the quality of living conditions		
	indicator value	ranking	indicator value	ranking	indicator value	ranking	
Rural areas	Dolnośląskie	0.449	11	0.561	5	0.473	13
	Kujawsko-pomorskie	0.568	9	0.521	9	0.557	7
	Lubelskie	0.441	13	0.595	3	0.480	11
	Lubuskie	0.662	5	0.575	4	0.638	5
	Łódzkie	0.324	16	0.324	16	0.324	16
	Małopolskie	0.665	4	0.644	1	0.658	3
	Mazowieckie	0.472	10	0.534	8	0.488	10
	Opolskie	0.785	2	0.400	15	0.653	4
	Podkarpackie	0.682	3	0.609	2	0.664	2
	Podlaskie	0.583	8	0.474	12	0.552	9
	Pomorskie	0.627	7	0.402	14	0.556	8
	Śląskie	0.796	1	0.552	6	0.716	1
	Świętokrzyskie	0.411	15	0.490	10	0.435	15
	Warmińsko-mazurskie	0.447	12	0.537	7	0.473	12
	Wielkopolskie	0.650	6	0.479	11	0.600	6
	Zachodniopomorskie	0.434	14	0.445	13	0.437	14
In Poland		0.577	-	0.536		0.566	
Total in Poland		0,557	-	0.404	-	0.516	-

* quality of the standard of housing and the presence of technical-sanitary facilities in the dwellings

** quality of the location and the surroundings of the dwellings

Source: own study based on non-identifiable microdata [CSO 2021]

A high overall rating of housing quality was observed in rural areas of southern (Śląskie, Podkarpackie, Małopolskie, Opolskie) and western (Lubuskie, Wielkopolskie) voivodeships –Table 4. The rural areas in the Śląskie Voivodeship ranked first in the quality assessment. However, it should be noted that this voivodeship had the lowest percentage of rural households, accounting for only slightly less than 18%.

SUMMARY AND CONCLUSIONS

The conducted research on the quality of housing conditions in rural areas of Poland in 2021 allowed us to conclude that both the overall rating and separate ratings for the quality of internal and external housing conditions in rural households were higher than the national average. Although all these ratings were classified as average, the largest differences in synthetic indicator values between rural households and the national average were found for the indicator of external housing conditions, including the sense of security in the place of residence, noise nuisance, air pollution, infrastructure deficiencies, and specific environmental attributes. This confirms the common belief that along with the natural advantages of housing locations in rural areas, problems related to the accessibility of infrastructure, such as roads or services like shops and pharmacies, arise. A high overall rating of housing quality was observed in rural areas of six voivodeships located in the south-central, south-eastern, and western parts of the country (Śląskie, Podkarpackie, Małopolskie, Opolskie, Lubuskie, and Wielkopolskie). Low ratings were assigned to rural areas in the Łódzkie Voivodeship.

There was a weak positive correlation between the ratings of internal and external housing conditions, but it was not statistically significant. In half of the voivodeships, the quality of internal housing conditions (the standard of dwellings and their technical-sanitary equipment) in rural households was assessed as average. In seven voivodeships, their quality was rated as high (Śląskie, Opolskie, Podkarpackie, Małopolskie, Lubuskie, Wielkopolskie, and Pomorskie), while only in the Łódzkie Voivodeship it was rated as low. On the other hand, the quality of external conditions (the surroundings of dwellings) was rated as high only in the Małopolskie and Podkarpackie voivodeships, as low in the Łódzkie Voivodeship, and as average in the rural areas of the remaining voivodeships.

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JAKOŚĆ WARUNKÓW MIESZKANIOWYCH NA OBSZARACH WIEJSKICH W POLSCE W UJĘCIU WOJEWÓDZKIM

Słowa kluczowe: warunki mieszkaniowe, jakość warunków mieszkaniowych, otoczenie mieszkaniowe, wiejskie gospodarstwa domowe, obszary wiejskie, TOPSIS

ABSTRAKT. Celem badań była wielowymiarowa ocena jakości warunków mieszkaniowych gospodarstw domowych na obszarach wiejskich w poszczególnych województwach, na tle ogólnu gospodarstw domowych w Polsce. W badaniach dokonano oddzielnie oceny jakości wewnętrznych i zewnętrznych warunków mieszkaniowych. Wewnętrzne warunki mieszkaniowe dotyczyły samych mieszkań i obejmowały standard ich użytkowania oraz wyposażenie w instalacje sanitarno-techniczne. Zewnętrzne warunki mieszkaniowe charakteryzowały otoczenie mieszkań, tj. uciążliwości związane z hałasem, przestępcością i brakami w infrastrukturze technicznej i usługowej. Łączna ocena jakości warunków mieszkaniowych obejmowała zarówno wskaźniki wewnętrzne, jak i zewnętrzne. Ocen tych dokonano na podstawie wartości wskaźników syntetycznych wyznaczonych metodą TOPSIS. Analizy przeprowadzono na podstawie danych jednostkowych nieidentyfikowalnych pochodzących z „Badania budżetów gospodarstw domowych” przeprowadzonych przez GUS w 2021 roku. Dla połowy województw jakość wewnętrznych warunków mieszkaniowych wiejskich gospodarstw domowych oceniono jako średnią, a w województwie łódzkim jako niską. Bardzo wysoką ocenę uzyskano dla siedmiu województw: śląskiego, opolskiego, podkarpackiego, małopolskiego, lubuskiego, wielkopolskiego i pomorskiego. Z kolei jakość warunków zewnętrznych tylko w województwach małopolskim i podkarpackim oceniono na poziomie wysokim, a w województwie łódzkim – również na poziomie niskim.

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Proposed citation of the article:

Głowicka-Wołoszyn Romana, Andrzej Wołoszyn, Joanna Stanisławska. 2023. Quality of housing conditions in rural areas in Poland at voivodeship level. *Annals PAAAE* XXV (2): 51-67.