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POPULATION IN RURAL AREAS – TWENTY YEARS OF POLAND'S MEMBERSHIP IN THE EU

WRZOCHALSKA, AGNIESZKA[1]

Abstract
Since the beginning of the 21st century, a few positive changes have taken place in rural areas in Poland, including those concerning rural society. At the same time, the countryside has begun to become an attractive place to live, especially areas located near cities, well connected to them. The aspirations and needs of the rural population have begun to resemble the needs of city dwellers. The lifestyle of residents in cities and rural areas has begun to become more uniform. A smaller and smaller percentage of the population has begun to work in agriculture. Several non-agricultural jobs have been created in rural areas, and non-agricultural jobs are also available in nearby towns. Therefore, expanding the educational competences or the level of formal education of the rural population to increase its importance on the labor market in the city and in the countryside is very important. At the same time, both the average size of the farm and the scale of neighboring leases have increased (Karwat-Woźniak, 2015; Karwat-Woźniak and Buks, 2022) and, to put it simply, it can be noted that even in one village, only a few professionally trained farmers (Doichinova, Stoyanova, 2020) run a farm.
A positive phenomenon is the increase in the life expectancy of Polish residents, but at the same time, the progressive process of population ageing has been noted. During the period of EU membership, the rural population realized its educational aspirations by increasing the level of education and reducing educational differences in relation to the population in cities. Activities to popularize adult education have become important, consisting both in improving accessibility and in raising awareness of the benefits of lifelong learning and acquiring civilizational competences, including improving digital skills. It should be noted that the course of demographic phenomena, starting from 2020, was greatly influenced by the outbreak of the COVID 19 pandemic, which contributed to a higher number of deaths than in previous years and thus deepening the unfavorable trends of population ageing that have appeared in the last dozen or so years in our country and Europe.
The article is an attempt to make a social, and primarily demographic, characterization of rural residents in Poland at the threshold of the third decade of the 21st century and the changes that have taken place in this area over the last twenty years.
Keywords: rural areas, demography, education, digitalization
JEL: J10; J11, J14, J24

Introduction

Integration with the European Union and the inclusion of Polish agriculture in the Common Agricultural Policy (CAP) was the next stage of changes in rural areas and in Polish agriculture, which were initiated in the last decade of the 20th century.

[1] Professor, DSc (econ), Institute of Agricultural and Food Economy – National Research Institute, Warsaw, Poland, e-mail: agnieszka.wrzochalska@ierigz.waw.pl

Poland's accession to the EU resulted in the inclusion of the Polish agricultural sector in the supranational agricultural policy – CAP, which is a set of policies for individual segments of agriculture, agricultural markets and structural policies. In this way, it determines the economic conditions in rural areas and the functioning of the agricultural sector of the EU member states. On the one hand, it creates opportunities for agricultural production and guarantees its appropriate size and quality. On the other hand, it constitutes the basis for social and economic development for the rural population (Doitchinova, Wrzochalska, 2022) and affects the level of environmental and landscape protection. This means that, in accordance with the adopted principles, this policy was intended to stabilize the situation in agriculture and improve the living conditions of the rural population.

Methodological framework

The aim of the publication is to analyze the demographic potential in rural areas, including trends in population changes and transformations in the demographic structure. The level of formal education of rural residents was also analyzed, including issues related to adult education and digital skills in the context of contemporary civilization requirements. The following indicators were used for statistical and descriptive analyses: population structure divided into biological age groups: 0 – 14, 15 – 64, 65 and more (or 0 – 14, 15 – 59, 60 and more), median age (median age of the population), demographic dependency ratios, generational support ratios, share of the oldest people (aged 80 and more in the population over 65) and potential number of years to live.

The metric threshold of old age, in accordance with WHO assumptions, was assumed to be 60 years. The research material consists of data from the Central Statistical Office and publications on the subject matter under study. The sources of data on the infant mortality rate in rural areas, the number of people in Poland who changed their permanent place of residence, the period in which this phenomenon occurred, the median age of the population, the expected duration of life in health, the enrollment rate, and the data needed to calculate the potential support rate are the mass statistics data from the Central Statistical Office, mainly for the years 2022 – 2023 in relation to 2004 or 2005.

Analysis of demographic processes

Over the last twenty years, the population in rural areas has increased by over 582 thousand. The observed gradual increase in the number and percentage of rural residents in the total population of the country was caused primarily by the migration of people living in cities to rural areas, located mainly around large, urbanized areas. (Stanny, Rosner i Komorowski, 2023). Despite the annual population loss in the age group of children and adolescents and people of mobile productive age, with a

simultaneous increase in the number of people in older age groups, rural areas were characterized by relatively better indicators than cities (Table 1).

Table 1. Selected demographic indicators in rural and urban areas in 2003 – 2023

Specification	2004	2015	2023	2004 – 2023
Rural areas				
People aged 65 and over per 1,000 children aged 0 – 14	668	852	1031	+363
Number of people of post-productive age per 100 people of productive age	26	27	34	+8
Non-working age population per 100 working age persons	69	58	68	–1
Potential support factor	490	499	385	–105
Parent care factor	6,2	9,2	9,7	+3,5
Urban areas				
People aged 65 and over per 1,000 children aged 0 – 14	818	1213	1578	+760
Number of people of post-productive age per 100 people of productive age	23	34	44	+21
Non-working age population per 100 working age persons	53	61	73	+20
Potential support factor	571	405	291	–280
Parent care factor	4,3	9,2	13,2	+8,9

Source: GUS, 2005, 2016, 2024a

Another positive phenomenon is the increase in life expectancy. Already at the threshold of the third decade of the 21st century, the average resident of rural areas is older than twenty years ago. Currently, a man aged 60 has 17.4 years of life ahead of him, and a woman 23.0 years, so they will live over a year longer than their peers from the year 2000. Forecasts predict that a newborn boy born today will live 3.6 years longer and a girl 2.7 years longer than newborns born at the beginning of the first decade of the current century. Despite the increase in the life expectancy of the population observed throughout the entire period under review, in 2020 the number of life expectancies decreased, including people over 60, compared to previous years. One of the main causes was the COVID-19 pandemic, which directly contributed to 8.7% of deaths in Poland. In the case of seniors, it was 9.1% of deaths (GUS, 2021b). However, over the last 20 years, a progressive process of population ageing has emerged both in Poland and in rural areas. Population ageing is an irre-

versible and universal phenomenon, and the development of society (its development phase) has an impact on this state. The main causes are: delaying the age of entering into relationships and the age of mothers giving birth to children, decreasing birth rates, which also results in a smaller number of potential mothers in the future, low fertility rates and a low level of natural increase. International migrations also have an impact, which mainly concerns young people and affect the distortion of the population structure.

Population ageing, according to the adopted definitions, means an increase in the percentage of elderly people while simultaneously decreasing the percentage of children. WHO adopts 60 years as the metric threshold of old age. UN and Eurostat 65 years. According to the UN criterion, the population is considered old when the share of people aged 65 and over exceeds 7%. A percentage above 10% indicates advanced old age (GUS, 2014). In rural areas, the percentage of people aged 65 and over was 13.5% in 2004, which is almost twice as high as when, according to the adopted UN criterion, the population is considered old, and in 2023 this percentage has already reached 17.2%. The population in cities in 2004 was characterized by a percentage of people in this age group at 12.5%, which by 2023 had increased to 22.1%.

In Poland, in rural areas and in cities, in the analyzed period, the percentage of people of senior age gradually increased. The intensification of the ageing process of residents, in both groups, was visible primarily in the second decade of this century. In the group of people of post-working age, the number of people in the age group over 85 increased. In rural areas in 2023, there were over 280 thousand such people, and their number increased by almost 150 thousand people over twenty years.

The quantitative relationships between older and younger groups of people and the possibility of supporting older generations are reflected in the support coefficients: the potential support coefficient and the parent care coefficient. The potential support coefficient indicates the number of people aged 15 – 64 per 100 people aged 65 and over.

The parent care coefficient indicates the number of people aged 85 and over per 100 people aged 50 – 64 (GUS, 2014). The first of these measures in 2004 was at the level of 490 in rural areas and 571 in cities (Table 1). In 2023, this indicator decreased to the level of 385 in rural areas and to the level of 291 in cities. The second indicator – the parent care coefficient in 2023 reached the level of 9.7 in rural areas and 13.2 in cities. In 2003, this indicator was 6.2 in the countryside and 4.3 in the city. This significantly highlighted the unfavorable relations in both groups in relation to previous years. The level of indicators shows that the population of both cities and the countryside is in the phase of advanced old age.

The progressive process of ageing of society will cause an increase in the percentage of senior citizens (over 60) in the coming decades. According to the forecast of

the Central Statistical Office, in 2030 in rural areas the percentage of people in this age group will be 26.3%, and in cities 31.0%. By 2050, these values will reach 37.8% (rural areas) and 42.2% in cities, respectively. It can be assumed that the senior citizen in the coming decades will play an increasingly important role in shaping the demographic structure of society, including rural ones.

Analysis of education and civilizational competences

An efficient education system is one of the conditions for increasing employee productivity and the competitiveness of the Polish economy. Regardless of increasing the average effects of education, its important task is to effectively equalize the development opportunities of people from different environments and areas. In the entire period of the last twenty years, favorable changes have been noted in relation to the level of education of society in Poland, including rural society. In the countryside, as in cities, the educational aspirations of society have increased, and the disproportions in relation to urbanized areas have gradually decreased at each stage of education.

After twenty years of EU membership, the participation of Polish children aged four and older in pre-school education has approached the EU average, but the participation rate is still low for younger children, especially 3-year-olds. The problem mainly concerns rural areas, where there is still an insufficient number of places in such facilities. As a result of the noted positive impact of European funding on the dissemination of pre-school education, in the last twenty years, there has also been a two-fold increase in the share of children aged 3 – 6 covered by pre-school education in rural areas. In the 2022/2023 school year, 712 out of 1000 children in this age group participated in this form of educational care. Despite activities financed from both national and EU funds to improve access to care for the youngest children, Poland is still one of the European countries where the participation of children under 3 years of age in institutional care is particularly low, due to the insufficient number of care places.

The dispersion of rural areas required a larger number of schools than in cities and a smaller number of students. On average, over one hundred and thirty students attended a rural school, while in cities, almost four hundred. Considering the spatial availability of primary schools in rural areas, it should be noted that almost one fifth of students lived within 3 – 4 to 5 km of the facility, and over one fourth of students were transported to schools. Special education facilities for particularly gifted children (e.g. sports) are rare in rural areas. Special schools are located there more often, where children with developmental disabilities can attend. However, the number of these schools and their availability was significantly lower than in urban areas and included fewer students.

In the period after Poland joined the EU, difficulties with maintaining the operation of schools became apparent in some rural areas. In the case of primary schools, their number systematically decreased and in the 2022/23 school year was lower by over a quarter compared to 2003/2004. In the case of secondary education, students from rural areas in most cases used schools in nearby towns, because there were only a few such institutions in rural areas. In the last few years, students most often chose general secondary schools, which were attended by almost half of the students in this group of schools. At the same time, a systematic increase in interest in schools enabling vocational training was also observed during this period. On the other hand, a decrease in the share of students of basic vocational schools/vocational schools of the first degree and general secondary schools was noted. It should be emphasized that over the past twenty years, the school system has undergone reforms and students and teachers, as well as parents, have had to additionally face the challenges caused by the outbreak of the COVID-19 pandemic. It should also be emphasized that throughout the entire period under review (2003 – 2022), the average results of students in Poland, in the three areas of the PISA study, were higher than the average for OECD countries and the average for EU countries, and relatively few countries achieved better results than Poland. This indicates a high level of educational skills of teachers and students and good preparation for education at higher levels of education.

In the entire period of the last twenty years, positive changes were noted in relation to the level of education of society in Poland, including rural society (Table 2).

Table 2. Education level of the population aged 15 – 64 in 2004 – 2021

Years	Higher	Post-secondary and secondary	Vocational secondary	Secondary	General vocational lower secondary	Unior high school, primary and lower
Rural areas						
2004	5,8	19,7	17,6	6,1	36,8	31,7
2015	14,6	23,3	21,1	8,8	32,7	20,5
2021	18,6	25,4	23,3	10,1	29,3	16,5
Urban areas						
2004	17,0	27,5	23,7	12,3	25,5	17,7
2015	31,0	24,6	21,0	11,9	20,8	11,7
2021	36,7	24,3	20,8	11,4	17,2	10,5

Source: GUS 2005, 2016, 2024b.

In the countryside, as in cities, the educational aspirations of society have increased, and the disproportions in relation to urbanized areas have gradually decreased. In rural areas, the share of people with higher education in the population aged 15 – 64 has increased almost fourfold. The percentage of the rural population with post-secondary and secondary education has also increased, while the percentage of people with the lowest level of education has decreased. These positive changes were primarily influenced by changes in the demographic structure, because lower levels of education mainly concerned people from older age groups. Currently, every sixth resident of rural areas, aged 15 – 64, has completed higher education, and every fourth has semi-higher or secondary vocational education. Two out of three rural children aged 3 – 5 are provided with early educational care in kindergartens.

In the modern world, the pace of so-called knowledge aging is relatively fast, especially in relation to specialist knowledge. Therefore, the learning process should not be identified with a single, separate stage of life. A person must be prepared to constantly improve their competences – also in adulthood and seniority. The involvement of older people in various forms of education, including lifelong learning processes, has become a necessity, as it is an important factor in maintaining and achieving professional successes for this group of people on the labor market. Although the employment rate of older people (aged 55 – 64) in Poland has been systematically growing for many years, it is still one of the lowest among EU countries. In relation to this group, the challenge is not only to keep these people on the labor market, but also to make better use of their experience.

The involvement of older people in the processes of continuing education is also a very important factor that allows this group of people to remain on the labor market, because low qualifications, lack of skills and the possibility of supplementing them are important reasons why employees in Poland are relatively early excluded from the labor market, compared to other countries. The process of improving the qualifications of adults in Poland is still selective and has a relatively small scope (Table 3).

Another positive phenomenon was the increase in language competences of the population in Poland, including the rural population, which is one of the factors conditioning the development of human capital, the role of which is constantly growing, also in rural areas, along with the progressive globalization of information, work, science and culture. These skills also affect a higher level of employee mobility. Knowledge of foreign languages in the modern world is not only an important indicator of the level of competence and skills of the population, but also enables relatively easy acquisition of a lot of available information, its processing and its use. Foreign languages are taught in primary schools as a compulsory subject. During Poland's membership in the EU, the percentage of children learning English more than doubled. Currently, practically all children learn this language in schools. At later stages of education, learning foreign languages is still compulsory. As a result,

adults should know at least one or two languages relatively well. According to data from the Central Statistical Office, in 2022, knowledge of foreign languages was declared by 67.1% of the population in rural areas, and in cities by 76.8% of people aged 18 – 69.

Table 3. Adult education for people aged 25 – 64 in 2004 – 2022

Specification	2004	2010	2015	2022
In %				
Poland	*	5,2	3,5	7,6
including women	*	5,7	3,8	8,3
European Union	*	9,1	10,7	11,9
including women	*	10,0	11,7	12,9

** no data*

Source: GUS 2019, 2021a, 2023a

In rural areas, 45.9% knew one language. In cities, this percentage was at the same level. Two or more languages were known by every fifth rural resident and every third urban resident. However, most people from rural areas had basic language skills, while in cities more people knew foreign languages at higher levels (intermediate and advanced).

The outbreak of the pandemic has highlighted how important the digital competences of society, access to the Internet and the skills of the population in this area are (Table 4).

As a result of several educational activities and the social development of the country's inhabitants, especially in recent years, these skills have developed significantly. In 2022, more than half of the rural population, aged 16-74, sent or received e-mails, made phone calls via the Internet, participated in discussion forums, and read the news. However, in comparison with other EU countries, including those that entered these structures together with Poland, a certain civilizational backwardness of Poles in this area was visible.

In most EU countries, in 2006, about twice as many people than in Poland used e-mail or searched for information about products on the Internet or used banking services, and in comparison, to the Scandinavian countries, there were three times fewer such people in Poland. After almost twenty years, Poles are still below the average for the EU-27 countries in this respect, and the differences with respect to the leaders in this area have persisted. Therefore, accelerating the development of society's competences in this area to achieve a similar level with the country’s leadership in this area of skills has become an important challenge for the coming years.

Table 4. Percentage of the population aged 16 – 74 using the Internet in the years 2005 – 2023 by purpose of use for private use and place of residence (in %)

Rural areas			Urban areas		
2005	2015	2023	2005	2015	2023
Using email					
13,0	42,8	58,5	31,0	60,8	80,5
Phone calls over the Internet, videoconferencing					
3,8	21,1	49,6	9,0	31,6	66,2
Social networking sites/participation in chats, discussion forums					
13,2	37,8	59,7	22,8	43,6	68,2
Searching for information about goods or services					
10,0	36,6	71,5*	20,3	45,7	76,1*
Purchase of goods and services					
2,0	17,0	58,7	8,0	28,4	73,8
Using banking services					
2,0	19,7	49,6*	8,0	38,2	59,6*
Using public administration services					
6,0	17,1	48,1*	16,0	32,3	60,3*
Searching for health information					
2,0	20,5	46,4*	10,0	33,1	55,8*

** 2022*

Source: GUS 2009, 2022b, 2023b.

Summary

The aim of the article was to analyze the demographic potential in rural areas, the level of formal education of rural residents, including issues related to adult education and digital competences of the rural population compared to city dwellers. In relation to the age structure of the inhabitants, in the period under study (2003 – 2023), rural areas were characterized by relatively better indicators than cities. In both communities, there was an annual decrease in the population in the age group of children and youth and the population of mobile productive age, with an increase in the number of people in older age groups. Thus, a very strong trend indicating the aging of society is expressed both by a dynamic increase in the absolute number

of people from the oldest age groups and the share of this group in the entire population. Thus, unfavorable quantitative relationships between older and younger groups of people and the possibility of supporting older generations, reflected in support coefficients: the potential support coefficient and the parental care coefficient, have become significantly visible and intensified**.**

These processes are taking place not only in Poland and concern most countries with a relatively high level of civilization development. Hence, an indispensable challenge is the constant development of forms of support and activation of seniors, aimed at improving their quality of life. Above all, actions for their integration with the environment in the place of residence are important.

One of the conditions for increasing employee productivity and the competitiveness of the Polish economy is an efficient education system. Regardless of increasing the average effects of education, its important task is to effectively equalize the development opportunities of people from different environments and areas. Education is also crucial for equalizing development disparities on a regional scale. The most important challenges and problems in this area include: ensuring that all children have access to early childhood education in kindergartens; individualizing the education process so that it is adapted to the needs of different students and activities to popularize adult education by both improving accessibility and raising awareness of the benefits of lifelong learning.

The outbreak of the pandemic has highlighted the important role that digital technologies and access to the Internet and the skills of the population play in everyday life. Currently, more than half of the population aged 16 – 74 send or receive e-mail messages, make phone calls via the Internet, participate in discussion forums, and read the news. However, it should be considered that the further development of digitalization, including e-services in every field, not only in the education or healthcare system, is inevitable. In the coming decades, new technologies will appear, causing the emergence of new digital divisions and the persistence of e-competence gaps among older generations, raised in times before the rapid dissemination of digital technologies. Therefore, the education system must constantly teach the useful use of new digital technologies at every level.

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