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Contents

Articles and Studies

OKSANA KIFORENKO

Rural Population and the Agricultural Economy Sector of Ukraine –
Pre-War Assessment 5

MARIUSZ-JAN RADŁO ARTUR F. TOMECZEK

50 Years of Rural Labour Productivity: A Systematic Review
of Economic Literature 31

JÁNOS PINTÉR

Rural Change at the Urban Fringe: Suburbanisation and Discursive
Repositioning in Ballószög's Relationship with Kecskemét (1954–2012) 57

MONIKA KWIECIŃSKA-ZDRENKA

The Countryside as a Space of Double Peripherality for Youth from Central
and Eastern Europe 87

TOMASZ MARCYSIAK

From Tradition to Innovation: Rurality in the Discourse of the 19th Polish
Sociological Congress 97

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Rural Population and the Agricultural Economy Sector of Ukraine – Pre-War Assessment

Abstract

Agriculture has always been a leading occupation for the inhabitants of Ukraine. The agricultural sector is an important source of livelihood for approximately 13 million Ukrainians living in rural areas. Despite about two-thirds of agricultural production being generated by enterprises, rural households account for around 30% of food. Despite the availability of modern and complex machinery and technologies, the inhabitants of rural settlements remain the primary driving force behind the development of the agricultural economy. This research aims to formulate recommendations for the post-war rebuilding of Ukraine's agricultural economy, based on answers to the following scientific questions: What are the dynamics and changes in specific indicators of Ukraine's agricultural economy sector during the 12 prewar years, from 2010 to 2021? Is there a correlation between the size of the rural population and these indicators, and if so, how strong is it? How can the identified patterns assist in rebuilding post-war Ukraine? To ensure the most robust results possible, various scientific research methods and tools were employed, including empirical, comparative, univariate, statistical, and time series analyses, a correlation research design, as well as textual, tabular, and graphical methods of data presentation. The research findings indicate that the following segments of the Ukrainian agricultural economy sector are correlated: rural population and agricultural products output, rural population and agro-food exports, and agricultural products output and agro-food exports.

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Keywords: rural population, agriculture, agricultural products output, international trade, Ukraine, correlation

Introduction

Agriculture is one of the oldest and most significant human activities, dating back to the earliest stages of human civilisation. For informational purposes, agriculture is defined by Britannica as “the active production of useful plants or animals in ecosystems that have been created by people” (Britannica 2024). The primary importance of agriculture lies in its provision of food for people and fodder for animals. However, agriculture also plays a crucial role in the economic, social, and environmental development of any nation (Cornelius 2023). As the fabric of rural communities and their main economic activity, agriculture significantly contributes to rural development by supporting employment, ancillary businesses, environmental services, and the economic and social infrastructure (European Commission 2000). Approximately half of the world’s economically active population is employed in agriculture, with some differences between countries with varying levels of economic development. In developing countries, this figure can be as high as two-thirds or more, while in developed countries, it is less than 10%. For instance, in the USA and some Western European countries, it is only 2–3% (Sustainable Development for Ukraine, n.d.).

Agriculture has always been a leading occupation for the inhabitants of Ukraine due to the country’s favourable climatic conditions, fertile soil, advantageous geographical location, and availability of a skilled workforce. Agriculture is a vital source of livelihood for approximately 13 million Ukrainians living in rural areas. Despite about two-thirds of agricultural production being generated by enterprises (big agro-holdings as well), rural households produce around 32% of food (Mykhalchuk 2022). This further underscores the importance of small and family farms for the sustainable functioning of agriculture and rural settlements, which in turn impacts the demographic situation in these areas. Accordingly, the development of small and family farms means an increase in the number of jobs remote from cities, ensuring the rural population not only the possibility to provide itself with everything it needs, but also guarantee social stability and a decent standard of living in

the local community (Odarchenko 2021). That is another confirmation for the importance of small and family farms either for the successive functioning of agriculture or rural settlements, having a consequent impact on the demographic situation in the country in general and small towns/villages in particular. According to the FAO report “Ukraine: Impact of the war on agriculture and rural livelihoods in Ukraine” (FAO 2022), 25% of the Ukrainian rural population engaged in agriculture has ceased or reduced production due to the war, with the situation being even more dire in the most agriculturally dependent regions of Ukraine, where over 40% of rural families are affected by the war (Mykhalchuk 2022).

However, the war has exacerbated the socio-economic challenges faced by the rural population, as, besides an increase in the natural mortality rate, the birth rate has been declining for a long time (Sánchez Nicolás, 2025). This is not unique to Ukraine but reflects a broader European trend. Moreover, over the past quarter-century, the challenges confronting rural areas have evolved (Wilczyński 2023), with climate change – characterised by increasing water scarcity and a growing number of natural disasters – complicating agricultural production and making life for the rural population even more difficult. Although modern machinery and mechanisms, developed through extensive technological advancements, have the potential to ease agricultural production and improve the lives of the rural population, they still require human operation, even those equipped with AI. Further, acquiring modern machinery often necessitates significant financial investment, which can be prohibitive. Consequently, despite the availability of advanced machinery and technologies, rural residents remain the primary driving force behind the development of the agricultural economy. Therefore, all aspects of the rural population dynamics, such as fertility and death rates, standard of living, and migration, are critically important not only for the communities per se but also for the successful functioning of the nation’s economy and, by extension, the economies of other countries. In outlining the course of the research presented in this paper, the following research questions have been framed: What are the dynamics and changes in specific indicators of Ukraine’s agricultural economy sector during the 12 pre-war years from 2010 to 2021? Is there a correlation between the size of the rural population and these indicators, and if so, how strong is it? How can the identified patterns assist in rebuilding post-war Ukraine? Consequently, the goals of the research are to

formulate recommendations for Ukraine for the post-war rebuilding of its agricultural economy, based on the answers to the outlined scientific questions.

Literature Overview

Among those who research topics related to various aspects of rural population functioning, notable contributions include those of Dinu and colleagues, who investigated the extent to which Romania accessed European funds for agriculture and rural development during the 2014–2020 period and how these funds influenced rural population functioning in the country (Dinu 2020). Mittenzwei and co-authors studied the effects of climate policy on agriculture and rural areas in Norway (Mittenzwei 2023). Dazhuan Ge and colleagues analysed the effects of rural-urban migration on agricultural transformation in China's traditional farming areas (Dazhuan 2020). Ngadi and co-authors examined youth mobility, job choice, and the implications for agricultural workers (Ngadi 2023). Sodoma and colleagues investigated the socio-economic aspects of rural development in the context of decentralisation of management, the organisation of rural areas, and the formation of development potential in Ukraine (Sodoma 2022). Nwachukwu and co-authors endeavoured to develop a model through which components of agricultural development can enhance rural livelihoods (Nwachukwu 2023). Kalogiannidis and colleagues assessed the risk, vulnerability, and resilience of agriculture, as well as its impact on sustainable rural economic development, using Greece as a case study (Kalogiannidis 2023). Romanenko and colleagues explored the development directions of rural territories in EU countries by stimulating the agricultural sector and tourism (Romanenko 2020).

Cvijanovic and colleagues conducted a systematic analysis of indicators of agriculture and rural development in East Central and South-East European countries (Cvijanovic 2020). Sikandar and colleagues examined the role of foreign aid in sustaining agricultural production and eradicating rural poverty in Pakistan (Sikandar 2022). Yigezu Wendimu and Tejada Moral reviewed existing agricultural challenges and prospects in Ethiopia (Yigezu & Tejada 2021). Boudet and colleagues assessed urbanisation processes affecting rural areas, exploring spatial patterns in rural-urban connectivity across the Global South and testing for its effects (Boudet 2020). Zhang and colleagues

examined the structure, changes, and regional differences in agricultural cultivation under urbanisation, analysed the reasons for the restructuring of agricultural cultivation, and revealed the adaptation linkages between rural-urban transition and agricultural restructuring (Zhang 2020). Maharjan and colleagues investigated agricultural land use change in Chitwan, Nuwakot, and Lamjung districts of Nepal from 1990–2017 vis-a-vis rural outmigration (Maharjan 2020). Chipfupa and Tagwi assessed the potential for rural youth participation in agriculture in South Africa using a typology formulation approach (Chipfupa & Tagwi 2021). Lucian examined the impact of the Rural Development Policy and Common Agricultural Policy on rural development in Romania (Lucian 2020).

A group of authors led by Dziamulych researched the interdependence and interrelation of monetary and non-monetary expenditures incurred for the maintenance of private peasant farms, alongside other socio-economic factors and the differentiation of rural population food consumption in the regional context, specifically in the Volyn region of Ukraine (Dziamulych 2020b). Another group of researchers, also led by Dziamulych, evaluated the rural labour market development in the Volyn region of Ukraine, identifying trends in rural population employment and unemployment (Dziamulych 2020a). Grujić-Vučkovski and colleagues analysed the importance of agriculture, forestry, and fisheries (AFF) through their contribution to the gross domestic product (GDP) of Serbia and the amount of funds allocated in local self-government units (LSUs) for agricultural needs (Grujić-Vučkovski 2022). Grodzicki and Jankiewicz investigated the impact of the Common Agricultural Policy (CAP) in the European Union (EU) on job creation and economic growth in rural areas (Grodzicki & Jankiewicz 2022). Gava and colleagues researched strategies to reduce rural poverty in Bosnia and Herzegovina through diffusing berry farming as an emerging strategy for increasing farm incomes (Gava 2021). Liangshan Li examined rural labour transfer from agriculture to non-agricultural sectors, identifying it as a key factor in increasing rural household income and improving agricultural productivity (Liangshan 2023), *inter alia*. Though some of the researchers mentioned above explored different aspects of either the agricultural economy sector or rural area functioning, they demonstrate the scope of topics being researched, and both their findings and methodologies can be studied and further implemented, where applicable, for Ukraine.

Focusing on research by Ukrainian authors, notable works include those by Pasemko and Taran, who discussed the peculiarities and challenges of state regulation for the agricultural sector of Ukraine during the war, using the Kharkiv region as a case study (Pasemko & Taran 2023); Minyaylenko and Kharchenko, who examined key factors and challenges facing the agricultural economy of Ukraine during the war (Minyaylenko & Kharchenko 2022); Khaietska and Udalov, who researched modern aspects of organic agriculture development in Ukraine under war conditions (Khaietska & Udalov 2024); Mishchenko and Mishchenko, who focused on the main principles and priorities for the post-war reconstruction of agriculture in Ukraine (Mishchenko & Mishchenko 2022); Bulavka, who explored the conceptual principles for the development of rural territories in Ukraine in the war and post-war periods (Bulavka 2022); Nesterenko and Kauk, who studied the use of artificial intelligence in agriculture (Nesterenko & Kauk n.d.); Neyter and colleagues who explored assessing damages, losses, and needs for Ukrainian agriculture due to the full-scale invasion (Neyter, Zorya & Mulyar 2024); Maryna and Yankovska, who investigated the functioning of the Ukrainian agricultural economy during the war (Maryna & Yankovska 2022); Kovtun, who discussed threats to the sustainable development of the agricultural sector and rural areas during the Russian-Ukrainian war (Kovtun 2023); Vykliuk and colleagues, who researched tools for supporting reproductive processes in Ukrainian agriculture under war conditions (Vykliuk, Kundytskyj & Garasym 2022); Nevar, who explored the consequences of the war for Ukraine's industry and agriculture (Nevar 2022), and others. Despite the publications being numerous, none of them studies the rural population in the context of its correlation with other indicators of agricultural economy development over a defined period, focusing on their dynamic peculiarities. This indicates a scientific gap that this paper aims to bridge.

Materials and Methods

A profound and precise data analysis is essential for robust research results. The data analysed in this article were sourced from the official publications and website of the State Statistics Service of Ukraine (State Statistics Service of Ukraine 2023b). The timeframe under analysis encompasses 12 periods (years) from 2010 to 2021. In order to see the data fluctuations better, a longer period of time was selected for the presentation of the dynamics for the population of Ukraine in Figure 1. Data for the agricultural products output in Ukraine are expressed in millions of UAH, adjusted to constant prices from 2016 to minimise the impact of inflation on the calculations.

The following terms are used in this article according to the methodological explanations of the State Statistics Service of Ukraine (State Statistics Service of Ukraine 2023c): “available population” refers to the population present in a specific territory at the time of the census, including individuals temporarily residing there (provided their absence from their place of residence does not exceed 12 months)” (State Statistics Service of Ukraine 2024). The term “rural population” denotes individuals living in villages and settlements (State Statistics Service of Ukraine 2023c), while “urban population” refers to those living in urban-type cities and towns (State Statistics Service of Ukraine 2024). “Export” is defined as a customs regime under which goods are exported outside the customs territory of Ukraine for free circulation without the obligation to return them and without establishing conditions for their use outside the customs territory (State Statistics Service of Ukraine 2021). Conversely, “import” is a customs regime under which goods are imported into the customs territory of Ukraine for free circulation without limitations on their period of stay and can be used without any customs restrictions (State Statistics Service of Ukraine 2021). Notably, since 2014, the State Statistics Service of Ukraine has not included data from the temporarily occupied territory of the Autonomous Republic of Crimea and the city of Sevastopol due to the Russia-Ukraine war. To conduct the research and ensure the most robust results possible, various scientific research methods and tools were employed, including empirical, comparative, univariate, statistical, and time series analyses, a correlation research design, as well as textual, tabular, and graphical methods of data presentation.

The calculations regarding data correlation were performed using R statistical software (R Core Team 2023). Pearson's correlation coefficient, which quantifies the strength of the association between two variables (Stewart 2024), was calculated according to the formula below:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}} \quad (1)$$

where r – Pearson correlation coefficient, n – number of stock pairs (Srivastav (ed.), Dheeraj Vaidya. 2024).

Given that the number of observations under analysis is not sufficiently large, which may lead to non-normality in their distribution, and to enhance the robustness of the presented research results, the Spearman correlation coefficient, a measure of the relationship between two variables when data are available in the form of rank orders (Sweeney, Anderson & Williams 2024), was also calculated in this article. A simpler formula for calculating the Spearman rank correlation coefficient is presented below:

$$\rho = 1 - \frac{6\sum d_i^2}{n(n^2-1)} \quad (2)$$

where ρ is the Spearman rank correlation coefficient, d_i the difference between a pair of ranks, and n the number of observations (Cheusheva 2022).

Additionally, Kendall's rank correlation non-parametric test was calculated according to the following formula:

$$\tau = \frac{\text{number of concordant pairs} - \text{number of discordant pairs}}{n(n-1)/2} \quad (3)$$

where τ is the Kendall's rank correlation coefficient and n the number of observations (Finnstats 2021).

Results and Discussion

Agriculture is vitally important for the Ukrainian economy, as it is the main source of livelihood for approximately one-third of the country's population. The abundance of fertile land, suitable climatic conditions, and a relatively favourable investment climate have enabled Ukraine not only to feed itself but also to provide food for millions of people in Asia, Africa, and the Middle East (Mamonova, Borodina & Kuns 2023). As labour is one of the production inputs in agriculture, besides land and capital (some also include entrepreneurship), understanding the dynamics and general trends of a country's population from which this labour is drawn will significantly contribute to comprehending the country's past functioning and improving its future. Ukraine is a predominantly urban country, with a significant excess of urban population over rural population (Figure 1).

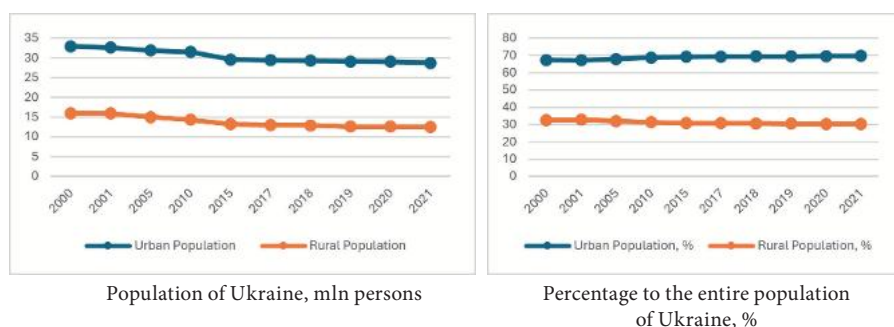


Figure 1: Dynamics for the Population of Ukraine

Source: Author's elaboration based on the data of (State Statistics Service of Ukraine 2023c).

The general trend for both the available and urban and rural populations of Ukraine is negative, indicating a constant decline over the analysed time-frame, with the only exception observed in 2020, when the rural population remained the same as in the previous year. A somewhat different picture emerges when analysing the percentage of the urban and rural populations vis-à-vis the available population of Ukraine. Here, we observe a decrease in the percentage of the urban population only in 2001 (0.2 percentage points),

with all subsequent years experiencing an increase. Conversely, the rural population exhibited only one percentage increase in 2001, with the remainder of the years showing a decline.

To contextualise the situation regarding towns, urban-type settlements, and rural settlements, as of January 1, 2022, there were 461 towns, 881 urban-type settlements, and 28,369 rural settlements (villages) in Ukraine. This compares with 460 towns, 885 urban-type settlements, and 28,385 rural settlements in 2015, and 459 towns, 885 urban-type settlements, and 28,457 rural settlements in 2010 (State Statistics Service of Ukraine 2023c). The general trend indicates an increase in the number of towns, while both urban-type settlements and rural settlements are decreasing. Such negative dynamics of the number of both types of rural settlements are extremely alarming, as, despite the availability of modern and complex machinery and technologies, rural residents remain the primary driving force behind the development of the agricultural economy.

An important factor contributing to the depopulation and "aging" of villages is labour migration, which is exacerbated by socio-economic problems that are more acute in rural areas (Vikhrov 2018). For example, the average monthly nominal salary of full-time employees in agriculture, forestry, and fisheries was UAH 13,061 (UAH 12,243 in agriculture), while in industry, the salary was UAH 15,176 (as of 2022) (State Statistics Service of Ukraine 2023c). Further, the number of jobs and agricultural entities also influence the aforementioned indicators. Additionally, among the factors affecting these trends, one should note the tendency of young people to leave rural areas – not only in Ukraine but also as a general European trend – primarily due to their desire to move to larger towns and cities for higher education and subsequently to settle there or seek employment abroad to find a better job, with higher salaries and not that are less demanding than those in agriculture. In addition, young people contribute to the depopulation of rural areas, because they do not have access to service networks" that would help them remain in their areas of origin (Álvarez Díaz 2024). It is indeed a combination of factors that impact the overall population size and that of rural areas, which vary from region to region. Agricultural production in Ukraine is carried out by three types of farming entities – enterprises, private farms, and households (Figure 2).

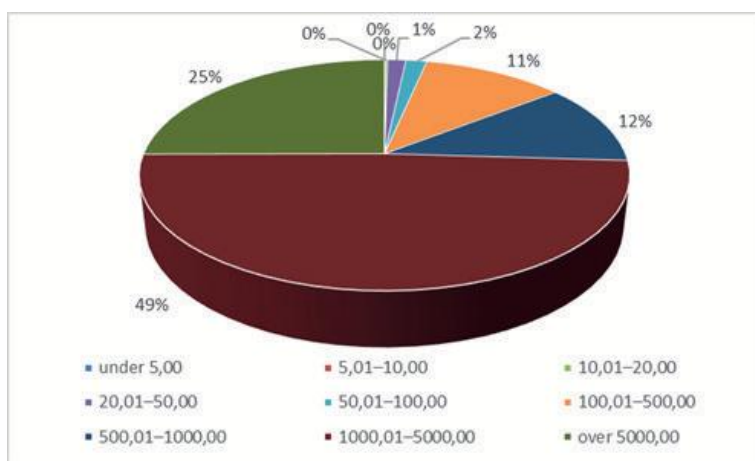


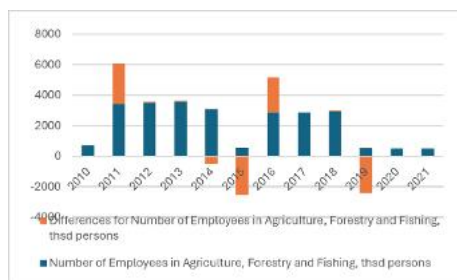
Figure 2: Distribution Structure of Enterprises Engaged in Agricultural Activity in 2022, by the Size of Owned/Leased Agricultural Land, ha

Source: Author's elaboration based on the data of (State Statistics Service of Ukraine

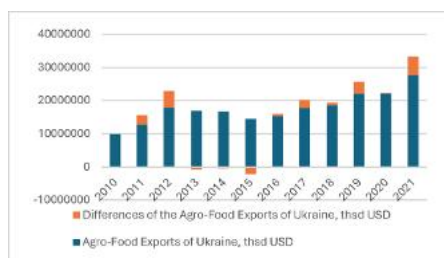
According to data from the State Statistics Service of Ukraine (2023), the largest proportion of agricultural land (approximately 49%) in Ukraine is cultivated by entities possessing or leasing between 1,000.01 and 5,000 hectares, followed by those possessing or leasing more than 5,000 hectares (approximately 25%); 11.5% is cultivated by those possessing or leasing between 500.01 and 1,000 hectares, just over 11% by entities possessing or leasing between 100.01 and 500 hectares, 1.6% by those possessing or leasing between 50.01 and 100 hectares, 1.4% by those possessing or leasing between 20.01 and 50 hectares, 0.2% by those possessing or leasing between 10.01 and 20 hectares, and 0.1% by those possessing or leasing between 5.01 and 10 hectares as of 2022 (State Statistics Service of Ukraine 2023c) (Figure 2). The percentage of land cultivated by entities possessing or leasing less than 5 hectares is too small to be represented in whole numbers. To propose options for future improvement of the Ukrainian agricultural economy in the post-war period, we shall analyse the development tendencies and dynamics of its segments during the pre-war timeframe (Figure 3).



Rural Population, thsd persons



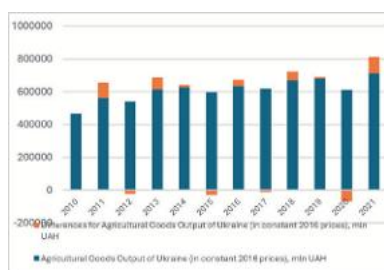
Employees in Agriculture, thsd persons



Agro-Food Exports, thsd USD



Agro-Food Imports, thsd USD



Agricultural Products Output (in constant 2016 prices), mln UAH

Figure 3: Dynamics with Differences for the Main Segments of the Agricultural Economy Sector of Ukraine Functioning

Source: Author's elaboration based on the data of (State Statistics Service of Ukraine 2023a).

The overall trend for the rural population of Ukraine has been negative throughout the whole timeframe under analysis, with no exceptions. The most significant decrease was observed in 2014, while the smallest decrease occurred in 2016. One might be tempted to attribute the drastic decline in rural population in 2014 solely to the annexation of certain Ukrainian territories; however, the situation is more complex. While the aforementioned events undoubtedly impacted the decline, such changes are generally the result of a combination of factors, including the general depopulation of rural territories across Europe (Eurostat 2024). A markedly different situation can be observed when analysing the dynamics for the number of employees in agriculture, forestry, and fishing, which is rather variable, lacking a clear trend. There are two consecutive periods, each lasting three years, where the first period denotes an increase in the number of employees from 2011 to 2013, while the second period shows a decrease from 2019 to 2021. The largest increase in the number of employees in agriculture, forestry, and fishing in Ukraine was noted in 2011, and the largest decrease in 2015.

The dynamics of the next indicator of the Ukrainian agricultural economy development differ from the previous two, as the value of agro-food exports increased from the beginning of the analysed timeframe until 2013, after which it declined for the next three years, before rising again from 2016 to the end of the analysed period. The most significant increase in agro-food exports from Ukraine was in 2021, while the biggest decrease occurred in 2015. The dynamics of Ukrainian agro-food imports closely mirror those of exports, but for 2013, when a decrease was observed alongside an increase in imports. The most significant increase in agro-food imports occurred in 2021, while the largest decrease was recorded in 2015, which further parallels the dynamics of the analysed exports. The final indicator of the Ukrainian agricultural economy development is agricultural output, the dynamics of which differ significantly from the others. Although the analysed timeframe is relatively short for drawing substantial conclusions, some cyclicalities can be observed, with alternating periods of one-year increases and decreases followed by two-year increases and one-year decreases. The most significant increase in agricultural output was noted in 2021, while the largest decrease was in 2020. Factors influencing changes in Ukraine's agricultural output include the seasonality of agriculture in general and climate change, along with

alterations in the agricultural output structure caused by changes in export regulations and other related factors.

The agricultural economy of any country comprises numerous interrelated segments and subjects, as the sector, like any other, is a complex system. Therefore, it is essential to analyse it as a whole to understand its functioning and propose options for improvement. The first step in this analysis is to determine whether specific segments, including recognised production factors such as employees and product output, are correlated with one another and, if so, how strong this correlation is. The results of the Pearson correlation coefficient calculations are presented in the table below (Table 1).

Table 1. Pearson Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, thsd persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro-Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population, thsd persons	1	0.479479276	-0.82904998	-0.747	0.2817
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.4795	1	-0.12388945	-0.338	0.1391
Agricultural Products Output (in constant 2016 prices), mln UAH	-0.829	-0.12388945	1	0.7911	-0.01
Agro-Food Exports, thsd USD	-0.747	-0.33752452	0.791094548	1	0.3795
Agro-Food Imports, thsd USD	0.2817	0.139140612	-0.00992675	0.3795	1

Source: Author's elaboration made with the help of (R Core Team 2023) based on the data of (State Statistics Service of Ukraine 2023a).

Analysis of the results presented in Table 1 reveals that the rural population has a medium positive correlation with the number of employees in agriculture, a strong negative correlation with agricultural output and agro-food exports, and a weak positive correlation with agro-food imports in Ukraine.

The number of employees in agriculture, forestry, and fisheries has a weak negative correlation with agricultural output and agro-food exports, and a weak positive correlation with agro-food imports. Agricultural products output has a strong positive correlation with agro-food exports and a weak negative correlation with agro-food imports. Additionally, agro-food exports exhibit a weak positive correlation with agro-food imports in Ukraine. Given that the number of observations in the analysed data sets is limited, and therefore the assumption of normality in data distribution cannot be perfectly met, the robustness of the Spearman correlation coefficients for the analysed data was calculated and is presented in Table 2.

Table 2. Spearman Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, thsd persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro-Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population, thsd persons	1	0.692307692	-0.783216783	-0.8321678	0.0769231
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.692308	1	-0.34965035	-0.4125874	0.2237762
Agricultural Products Output (in constant 2016 prices), mln UAH	-0.78322	-0.34965035	1	0.6153846	-0.097902
Agro-Food Exports, thsd USD	-0.83217	-0.412587413	0.615384615	1	0.3566434
Agro-Food Imports, thsd USD	0.076923	0.223776224	-0.097902098	0.3566434	1

Source: Author's elaboration made with the help of (R Core Team 2023) based on the data of (State Statistics Service of Ukraine 2023a).

The results from Table 2 lead to the following conclusions: the correlation between the rural population and the number of employees in agriculture in Ukraine is strongly positive, the correlation between the rural population

and agricultural output strongly negative, that between the rural population and agro-food exports a strong negative, and the correlation between the rural population and agro-food imports is weakly positive. The correlation between the number of employees in agriculture, forestry, and fishing in Ukraine and agricultural products output, as well as with agro-food exports, is a weak negative, while with agro-food imports, it is weakly positive. The correlation between agricultural products output, agro-food exports, and agro-food imports in Ukraine is strongly positive, while with agro-food imports, it is weakly negative. Simultaneously, the correlation of agro-food exports with agro-food imports is weakly positive. For the results, Kendall correlation coefficients for the analysed data were calculated and are presented in Table 3 below.

Table 3. Kendall Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, thsd persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro-Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population, thsd persons	1	0.545454545	-0.666666667	-0.69697	-0.060606
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.54545	1	-0.272727273	-0.30303	0.2121212
Agricultural Products Output (in constant 2016 prices), mln UAH	-0.6667	-0.272727273	1	0.484848	-0.030303
Agro-Food Exports, thsd USD	-0.697	-0.303030303	0.484848485	1	0.3030303
Agro-Food Imports, thsd USD	-0.0606	0.212121212	-0.03030303	0.30303	1

Source: Author's elaboration made with the help of (R Core Team (2023) based on the data of (State Statistics Service of Ukraine 2023a).

A thorough examination of the results presented in Table 3 reveals that the rural population has a medium positive correlation with the number of employees, a medium negative correlation with agricultural products output and agro-food exports, and a very weak negative correlation with agro-food imports. The number of employees in agriculture, forestry, and fishing in Ukraine has a weak negative correlation with agricultural products output and agro-food exports, and a weak positive correlation with agro-food imports. Agricultural products output in Ukraine has a medium positive correlation with agro-food exports and a weak negative correlation with agro-food imports. Agro-food exports has weak positive correlation with agro-food imports. To ensure robust research results and check their statistical significance, the p-values for the calculated correlation coefficients were determined and are presented in Table 4 below. It should be noted here that alpha equals 0.05. The first p-values to be analysed are those for the Pearson correlation coefficients.

Table 4. P-values for the Pearson Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, that persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro- Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population, thsd persons		0.1147191	0.0008564	0.005244	0.374976
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.114719		0.7012696	0.283293	0.66627
Agricultural Products Output (in constant 2016 prices), mln UAH	0.000856	0.7012696		0.00218	0.975574
Agro-Food Exports, thsd USD	0.005244	0.283293	0.0021801		0.223739
Agro-Food Imports, thsd USD	0.374976	0.66627	0.9755741	0.223739	

Source: Author's elaboration made with the help of (R Core Team 2023) based on the data of (State Statistics Service of Ukraine 2023a).

The p-values presented in the table indicate that the following correlation calculations results are significant: the correlation between the rural population and agricultural products output, and the correlation between agricultural products output and agro-food exports. The p-values for the Spearman correlation coefficients of the analysed data are presented in Table 5.

Table 5. P-values for the Spearman Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, thsd persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro-Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population of Ukraine, thsd persons	0	0.0159	0.00412	0.00144	0.817
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.0159	0	0.266	0.184	0.485
Agricultural Products Output (in constant 2016 prices), mln UAH	0.00412	0.266	0	0.0373	0.766
Agro-Food Exports, thsd USD	0.00144	0.184	0.0373	0	0.256
Agro-Food Imports, thsd USD	0.817	0.485	0.766	0.256	0

Source: Author's elaboration made with the help of (R Core Team (2023) based on the data of (State Statistics Service of Ukraine 2023a).

According to these values, the correlation between the rural population and the number of employees, agricultural products output, and agro-food exports, as well as between agricultural products output and agro-food exports in Ukraine, is statistically significant. The p-values for the Kendall correlation coefficients of the analysed data are presented in Table 6.

Table 6. P-values for the Kendall Correlation Coefficient of Ukraine's Agricultural Sector Functioning Data

	Rural Population, thsd persons	Number of Employees in Agriculture, Forestry and Fishing, thsd persons	Agricultural Products Output (in constant 2016 prices), mln UAH	Agro-Food Exports, thsd USD	Agro-Food Imports, thsd USD
Rural Population, thsd persons	4E-09	0.0138	0.0018	0.001	0.841
Number of Employees in Agriculture, Forestry and Fishing, thsd persons	0.0138	4.18E-09	0.25	0.197	0.381
Agricultural Products Output (in constant 2016 prices), mln UAH	0.0018	0.25	4.18E-09	0.0311	0.947
Agro-Food Exports, thsd USD	0.001	0.197	0.0311	4E-09	0.197
Agro-Food Imports, thsd USD	0.841	0.381	0.947	0.197	4E-09

Source: Author's elaboration made with the help of (R Core Team (2023) based on the data of (State Statistics Service of Ukraine 2023a).

The results of the p-values for the Kendall correlation coefficients indicate the statistical significance of the following correlation pairs: rural population – number of employees, rural population – agricultural products output, rural population – agro-food exports, and agricultural products output – agro-food exports. After conducting exclusion analysis, the following segments of the Ukrainian agricultural economy sector were found to be correlated: rural population and agricultural products output, rural population and agro-food exports, and agricultural products output and agro-food exports. Importantly, the correlation does not automatically mean causation; hence, the cause-and-effect relationships between the variables analysed in this article are a direction for future research.

The research presented in this article will continue, either by expanding the list of segments in the agricultural economy or by applying different sta-

tistical tools to deepen the analysis and explore new horizons of Ukrainian agricultural functioning. Comparing pre-war and during-war data on the functioning of Ukrainian agriculture, examining their differences, dynamics, and tendencies, and treating the war period as a statistical shock in calculations and model building would not only be of interest to researchers but would also provide valuable insights for all stakeholders involved in the political and economic life of Ukraine, both domestically and internationally. However, a significant limitation to conducting such research arises from the war itself and its numerous adverse impacts on the country's functioning, particularly the incomplete statistical data or even their absence, which complicates research or even makes it impossible to conduct.

Conclusions

Ukraine as a whole, and its agriculture in particular, face enormous challenges today, exacerbated by the ongoing war in the country. Some scholars argue that this conflict has been provoked by extraordinary circumstances stemming from global changes in social relations, climate, intensifying competition for global resources and spheres of influence, as well as efforts by previous authorities to maintain their place on the geopolitical stage (Hadzalo 2023). This conflict has triggered unprecedented population migrations since the end of World War II, not only within Ukraine but throughout Europe (Halamska 2023). Further, due to the war, Ukraine – a leading grain exporter – has experienced a dramatic decline in its exports, leading to significant food security concerns for millions of people worldwide (European Council, 2024). Compared to the 2021/2022 period, Ukraine's grain production dropped by 29% for the market year 2022/2023, with further declines expected (European Council, 2024). The research findings indicate that the following segments of the Ukrainian agricultural economy sector are correlated: rural population and agricultural products output, rural population and agro-food exports, and agricultural products output and agro-food exports. The possible explanation for the first correlation pair includes the development of more modern machinery, which does not need so many workers to operate but is more efficient, as well as the usage of better production technologies, sowing materials, and fertiliser, which help increase agricultur-

al production despite the declining rural population size. The correlation of the second pair of variables can be explained by more people leaving rural areas and fewer small and individual farmers cultivating the land, leading them to lease it to larger producers who are more export-oriented. The correlation between the third pair of variables is straightforward: the more agricultural products produced, the more can be exported.

Given the vital importance of agriculture for Ukraine, including its trade and political partners, and for every citizen, not only in Ukraine but also beyond, renewal of the rural communities will become one of the leading tasks in post-war Ukraine. A crucial element of rural renewal is the support of the local communities and the coordination of activities undertaken therein by regional public administration authorities (Sykała 2023). In this context, attracting former rural residents back to their villages should be a priority for public administrators at all levels, not just local ones. In outlining the main directions for post-war reconstruction in Ukraine, it is essential to acknowledge that the trend of rural population reduction was evident even before the war. It would be simplistic to assert that the total reduction of the population, in general, and the rural population, in particular, occurred solely due to natural causes; such simplicity can be misleading, especially when planning the country's post-war renewal. The first step should be to identify the reasons driving rural people to abandon Ukrainian villages. This requires a two-pronged cooperation with each rural community to ensure the effectiveness of the collaboration. Once these reasons are identified, the best practices from other countries regarding rural territory renewal and support should be studied. For instance, the EU's Rural Vision 2040, which aims to create stronger rural areas and more resilient local communities with improved access to services and the introduction of social innovations tailored to specific local contexts (Hałasiewicz 2023), should be thoroughly explored. The next step should involve examining the possibilities for adapting and implementing these best practices to the realities of the Ukrainian rural communities. Successfully fulfilling these tasks will positively influence not only the functioning of individual communities but also contribute to the renewal of the entire Ukrainian economy, thereby strengthening the country's economic and political position on the global stage. The research itself, along with its findings, would be of great interest and utility to public administrators at all levels in Ukraine, potential inves-

tors in the post-war renewal of the Ukrainian economy, particularly its agricultural sector, domestic and foreign business entities, decision-makers, and the academic community, as well as both novice and experienced specialists in statistics and data analysis.

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50 Years of Rural Labour Productivity: A Systematic Review of Economic Literature

Abstract

This study presents a systematic review of the economic literature on rural labour productivity over the past fifty years, using bibliometric and network analysis to identify prevailing themes and research patterns. The review addresses three central questions: (1) What are the main research threads in rural labour productivity? (2) Which countries, journals, and publications are pivotal in this field? (3) How does rural labour productivity research remain relevant to modern economic analysis and policy? Drawing from 207 scientific articles indexed in the Scopus database, our analysis reveals five primary research themes: [1] Economic structure, policy, and labour dynamics; [2] Social, cultural, and human capital factors; [3] Land use and agricultural practices; [4] Infrastructure, urbanisation, and economic growth; and [5] Environmental sustainability and technological support. Additionally, the network analysis identifies the United States, China, India, and several European countries as key collaborators in advancing rural productivity research, with promi-

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ment journals including *World Development* and *Journal of Development Economics*. The findings underscore the field's relevance in addressing ongoing rural-urban disparities, gender and social equity issues, and sustainable development challenges. This review highlights future research opportunities, particularly in underrepresented regions and in exploring the longitudinal impacts of rural labour productivity on economic growth.

Keywords: labour productivity, rural areas, systematic literature review, bibliometric analysis, network analysis

JEL codes: J43, O13, R11, Q12, O18

Introduction

Rural labour productivity is a cornerstone of economic development, particularly in regions where a substantial portion of the population is employed in agriculture and other rural industries. Disparities in productivity between rural and urban labour markets not only influence migration patterns but also shape income distribution and impact national economic growth trajectories. Recent studies have revealed how the use of modern technology can impact labour productivity in agriculture (Aihounton & Christiaensen 2024; Mamchur & Studinska 2024; Thann et al. 2025; Yamashita et al. 2024; Zhu et al. 2025). Understanding the factors underpinning rural labour productivity is essential for policymakers striving to reduce rural-urban divides and foster inclusive economic growth. Radło & Tomczek (2022) highlight the complexity of labour productivity, pointing to multiple determinants such as human capital, economic cycles, and regional disparities. However, a gap remains in systematically synthesising how these factors specifically affect productivity in rural labour markets and how regional variations influence outcomes.

This article systematically explores the dominant research themes in rural labour productivity, offering a comprehensive view of how economic structures, social factors, and policy interventions intersect to influence productivity in rural settings. We aim to synthesise existing literature from the past five decades, highlighting major threads, geographic focal points, and thematic

clusters that characterise the field. In addressing this objective, we attempt to provide answers to three central research questions: [RQ1] What are the main research threads in economic studies on rural labour productivity? [RQ2] Which countries, journals, and publications play pivotal roles in advancing rural labour productivity research? [RQ3] How does the study of rural labour productivity remain relevant to modern economic analysis and policy?

This study adopts a systematic literature review combined with bibliometric and network analysis to capture influential research from the Scopus database spanning 1974 to 2024. This dual approach enables us to examine publication patterns and identify key networks of collaboration, research themes, and trends over time. Our network analysis covers 207 scientific articles, identifying international co-authorship patterns, journal connections, and key thematic clusters. Additionally, we conduct an in-depth review of the 50 most-cited articles to gain deeper insights into the core factors driving rural labour productivity. Following established bibliometric methodology, we apply co-authorship, bibliographic coupling, and keyword co-occurrence analyses to uncover connections and thematic clusters in the literature.

Modern rural labour productivity is a multifaceted issue. Five main research themes are identified in this article: [1] Economic structure, policy, and labour dynamics; [2] Social, cultural, and human capital factors; [3] Land use and agricultural practices; [4] Infrastructure, urbanisation, and economic growth; and [5] Environmental sustainability and technological support. Economic development and rapid technological progress create new challenges and opportunities, and even remote rural locations are impacted by fluctuations in the interdependent global markets.

This article is structured as follows: Section 1 introduces the study's background, objectives, and significance. Section 2 details the methodology, including data selection criteria and the analytical framework employed to systematically review and interpret the literature. Section 3 presents the main results, encompassing co-authorship networks, journal clusters, and keyword analysis to identify core themes. Finally, Section 4 concludes with reflections on the importance of rural labour productivity research and suggests areas for future investigation in this evolving field.

Methodology

Data selection process

The bibliometric data selection process follows the standard set in earlier studies (Tomczek 2023). For the bibliometric part of the analysis, we focus exclusively on scientific articles indexed in the Scopus database (Elsevier 2024). To locate the relevant publications and ensure bias-free selection, the following advanced search query string is used: (TITLE-ABS-KEY (labor W/3 productivity) AND TITLE-ABS-KEY ("rural") AND SUBJAREA (econ OR busi OR deci) AND DOCTYPE (ar OR re) AND LANGUAGE (English) AND PUBYEAR > 1973 AND PUBYEAR < 2025). This search query string finds scientific articles where the title, abstract, or keywords include the searched-for words: "labour" and "productivity" (proximity operator: separated by no more than three other words), and "rural." The articles must be published in English and assigned to any of the following economic categories: Economics, Econometrics and Finance (econ), Business, Management and Accounting (busi), or Decision Sciences (deci). The focus of the analysis is on the last half-century of economic scientific articles (1974–2024). The cutoff point of 2024 is May, when the Scopus search was conducted. The prepared dataset has 207 scientific articles (including three review articles).

For the systematic literature review, we select the top 50 articles with the highest citation efficiency. Citation efficiency is defined by Uddin et al. (2012, p. 695) as the number of citations received by an article divided by its age. In this study, we add one year to the publication age since the dataset also includes articles published in 2024. TABLE 1 lists the top 50 articles on rural labour productivity published between 1974 and 2024. Each entry summarises core findings on various determinants of productivity, including land reforms, sectoral transitions, infrastructure access, urbanisation, energy transition, seasonal work patterns, health and nutrition, financial access, land fragmentation and consolidation, the influence of social capital and migration, and gender discrimination. These studies offer insights into how social, economic, environmental, and policy factors impact productivity across diverse geographic contexts, with emphasis on countries such as China, India, regions in Africa, and Latin America. A more detailed analysis of these publications, including an extraction of key themes related to fac-

tors influencing rural labour productivity, is provided in the results section of this article. The larger versions of the graphs, the lists of keywords, and the list of all 207 articles on rural labour productivity (including the top 50 analysed in the systematic literature review) are available in the associated dataset (Radło & Tomeczek 2024).

Table 1. Top 50 economic articles on rural labour productivity (1974–2024)

Author/s (Date)	Main Findings
Arthi et al. (2018)	– Traditional survey methods overestimate work hours on farms. – Weekly surveys reduce recall and cognitive bias.
Begum Sadaquat & Sheikh (2011)	– Gender discrimination limits women's access to better-paid agricultural roles in Pakistan. – Social barriers and low education keep women in low-productivity sectors.
Binswanger-Mkhize (2013)	– Limited labour flow from agriculture to other sectors in India restricts productivity growth. – Insufficient support for structural transformation.
Bu & Liao (2022)	– Land property rights reform in China boosted rural entrepreneurship. – Increased start-ups by professional farmers and urban residents, with better land access and financing options.
Cai (2018)	– Reforms in China allowed labour mobility from agriculture, increasing productivity. – Reduction of migration barriers enhances resource allocation.
Cai & Wang (2008)	– Reducing surplus labour boosts agricultural productivity and reduces rural-urban income gaps in China. – Labour-saving technologies are adopted as surplus labour decreases.
Collier & Dercon (2014)	– Focusing solely on smallholder farms may limit productivity. – Permitting diverse farm models improves efficiency.
Cornia (1985)	– Small farms achieve higher productivity through intensive labour use in surplus conditions. – Larger farms benefit from better credit access for technological improvements.
De Janvry & Sadoulet (2010)	– Increased agricultural productivity helps reduce poverty where agriculture is the main occupation. – Public investments in agriculture enhance growth.
Deolalikar (1988)	– Labour productivity in South India is more responsive to nutrition status than calorie intake. – Chronic malnutrition impacts long-term productivity.

Author/s (Date)	Main Findings
Dercon & Gollin (2014)	– Low agricultural productivity in sub-Saharan Africa limits regional development. – Infrastructure and service access are critical productivity constraints.
Diao et al. (2017)	– Sectoral shifts from agriculture to services and manufacturing reduce poverty, especially for rural women.
Djido & Shiferaw (2018)	– Income diversification enhances overall productivity but may reduce agricultural productivity due to labour shifts, highlighting the need for policies that mitigate such trade-offs.
Dubbert (2019)	– Contract farming boosts productivity and price margins for small farms.
Emran & Shilpi (2018)	– Higher agricultural productivity raises wages but reduces reliance on hired labour. – Rainfall variability influences productivity.
Fafchamps & Quisumbing (1999)	– Education improves off-farm income but has a limited impact on on-farm productivity. – Gender differences affect productivity impacts.
Glaeser & Xiong (2017)	– Urbanisation correlates with economic growth due to human capital accumulation.
Glaser & Diele (2004)	– Seasonal changes impact productivity in mangrove crab fisheries in Brazil.
Hamory et al. (2021)	– Individual selection biases affect productivity gap measurements between sectors.
Imbert et al. (2022)	– Rural-urban migration increases labour intensity in manufacturing but can reduce overall productivity.
Jacoby (1995)	– Women's agricultural productivity in Côte d'Ivoire makes polygyny economically beneficial.
Jha et al. (2009)	– Calorie and micronutrient deficits in rural India trap workers in low productivity.
Jia & Petrick (2014)	– Land fragmentation in China reduces productivity and encourages off-farm work.
Kaczan (2020)	– Road expansion in India promotes non-farm employment and reduces reliance on forests.
Krey et al. (2012)	– Urban productivity in Asia is higher due to a denser population and better resource use.
Kuijs & Wang (2006)	– China's growth model favours industrial investment, exacerbating rural-urban income inequality.
LaFave & Thomas (2017)	– Height as an early-life indicator correlates with productivity in Indonesia.
Lanjouw (2001)	– Non-farm employment in rural El Salvador reduces poverty but may lower on-farm productivity.

Author/s (Date)	Main Findings
Lipton (1980)	– Rural-urban migration initially raises rural productivity but increases income inequality.
S. Liu et al. (2018)	– Mechanisation and land consolidation could boost productivity in Chinese agriculture.
Y. Liu et al. (2020)	– Non-farm employment growth in Vietnam has led to wage and productivity increases in agriculture.
Mahadevan et al. (2017)	– Tourism-led growth in Indonesia boosted productivity more effectively than cash transfers.
Maji et al. (2021)	– Incomplete energy transitions lower productivity in India due to health impacts, especially on women.
McCullough (2017)	– Measured per hour, productivity gaps in agriculture decrease, suggesting underemployment.
Minale (2018)	– Negative productivity shocks in China increase migration and off-farm work as coping mechanisms.
Minami & Ma (2010)	– China has surplus agricultural labour, with potential productivity gains through migration.
Nagler & Naudé (2017)	– Rural non-farm entrepreneurship productivity is higher in urban or male-owned businesses.
Nguyen et al. (2019)	– Remittances increase farm productivity in Vietnam, while migration without remittances lowers it.
Rathi & Vermaak (2018)	– Electrification in rural India and South Africa boosts productivity, particularly for women.
Ruben & Van Den Berg (2001)	– Non-farm employment in Honduras reduces poverty and diversifies income sources.
Salvati & Carlucci (2011)	– Sustainable practices in Italy support productivity, while environmental degradation lowers it.
Serrano-Cinca & Gutiérrez-Nieto (2014)	– Microfinance targeting the poorest enhances productivity despite high costs, with technology reducing expenses.
Shi (2018)	– Migration reduces agricultural productivity in China due to labour shortages, though off-farm income helps financially.
Van Den Broeck et al. (2021)	– Income from agricultural self-employment in Tanzania improves household nutrition.
Vandecasteele et al. (2018)	– Proximity to urban areas in Ethiopia increases agricultural productivity through wage and rental incentives.
Wen (1993)	– The Household Responsibility System in China significantly increased productivity compared to the communal system.
Whalley & Zhang (2007)	– Hukou restrictions in China reduce productivity by limiting labour mobility to productive regions.
Zhang et al. (2020)	– Land rental markets in China improve productivity by enabling land consolidation.

Author/s (Date)	Main Findings
Zhang et al. (2021)	– Land rental markets benefit small farmers in China by enabling expanded farm operations.
Zhu & Luo (2010)	– Migration in China increases rural household income, reducing poverty but sometimes widening inequality.

Source: Own elaboration based on (Arthi et al. 2018; Begum Sadaquat & Sheikh 2011; Binswanger-Mkhize 2013; Bu & Liao 2022; Cai 2018; Cai & Wang 2008; Collier & Dercon 2014; Cornia 1985; De Janvry & Sadoulet 2010; Deolalikar 1988; Dercon & Gollin 2014; Diao et al. 2017; Djido & Shiferaw 2018; Dubbert 2019; Emran & Shilpi 2018; Fafchamps & Quisumbing 1999; Glaeser & Xiong 2017; Glaser & Diele 2004; Hamory et al. 2021; Imbert et al. 2022; Jacoby 1995; Jha et al. 2009; Jia & Petrick 2014; Kaczan 2020; Krey et al. 2012; Kuijs & Wang 2006; LaFave & Thomas 2017; Lanjouw 2001; Lipton 1980; S. Liu et al. 2018; Y. Liu et al. 2020; Mahadevan et al. 2017; Maji et al. 2021; McCullough 2017; Minale 2018; Minami & Ma, 2010; Nagler & Naudé 2017; Nguyen et al. 2019; Rathi & Vermaak 2018; Ruben & Van Den Berg 2001; Salvati & Carlucci 2011; Serrano-Cinca & Gutiérrez-Nieto 2014; Shi 2018; Van Den Broeck et al. 2021; Vandecasteele et al. 2018; Wen 1993; Whalley & Zhang 2007; Zhang et al. 2020, 2021; N. Zhu & Luo 2010).

Network analysis

The network analysis is conducted using a popular open-source bibliometric software called VOSviewer (van Eck & Waltman 2010). Specifically, we construct three types of networks: co-authorship network (international collaboration), bibliographic coupling network (scientific journals), and keyword co-occurrence network (text mining of titles and abstracts).

Co-authorship of articles is a documentation of scientific collaboration, which can be represented in forms of co-authorship networks (Newman 2001, 2004). As a staple of modern bibliometric analysis, international collaboration networks are used to analyse international co-authorship ties between authors based on their affiliation (Barbosa & Ferreira-Lopes 2021; Quevedo et al. 2023; Szczech-Pietkiewicz et al. 2023). Such networks identify the geographic distribution of researchers and quantify the strength of collaborative activities. Our international collaboration network comprises nodes (vertices) representing the country of the institution an author is affiliated with, and weighted edges (links) representing the number of co-authored scientific articles.

The bibliographic coupling network, as conceptualised by Kessler (1963) and further explored in recent studies (Tomeczek 2023; Yadav et al. 2022),

uses nodes to represent scientific journals, with edges signifying references shared between them.

Keyword co-occurrence networks are commonly used for knowledge mapping (Lee & Su 2010; Oliveira et al. 2022; Szczech-Pietkiewicz et al. 2023). The results of such networks identify the main topics and thematic clusters of scientific analysis in the analysed period. Nodes represent keywords, and edges represent the co-occurrence of two keywords in an article. Scopus supplies a list of author keywords and index keywords for the articles. However, of the top 50 articles available in our dataset, only 40 have author keywords, and 35 have indexed keywords. Since the number of articles analysed in this review is relatively small, we chose to use keywords determined by text mining of titles and abstracts (counting method: full; threshold occurrence: five or more; relevance score: top 60%). VOSviewer's text mining capabilities are based on the Apache OpenNLP library (van Eck & Waltman 2023). The co-occurrence network "is a two-dimensional map in which terms are located in such a way that the distance between two terms can be interpreted as an indication of the relatedness of the terms. In general, the smaller the distance between two terms, the stronger the terms are related to each other. The relatedness of terms is determined based on co-occurrences in documents" (van Eck & Waltman 2011, p. 1). The details of the procedure are available in van Eck and Waltman (2011, 2023).

Results

Co-authorship and bibliographic coupling network

Figure 1 shows the international collaborative ties between countries that authored at least three articles in the analysed dataset of 207 articles. It displays the international co-authorship network for 207 articles, showing collaborative ties between countries involved in research on rural labour productivity. The network highlights the central role of the United States and China as major hubs of collaboration, each with distinct patterns of international partnerships. The United States shows strong connections with European countries, such as Germany, the Netherlands, and the United Kingdom, as well as with Canada and South Africa, indicating a broad, global research network across both developed and emerging economies.

China, meanwhile, demonstrates notable collaborative ties with India, forming a concentrated network in the Asian region. Other countries like Germany, Japan, Sweden, and Belgium are also present in the network, contributing to the overall connectivity, but with fewer links compared to the major hubs. This network reflects the global nature of research on rural labour productivity and the importance of cross-border partnerships in advancing knowledge in this field.

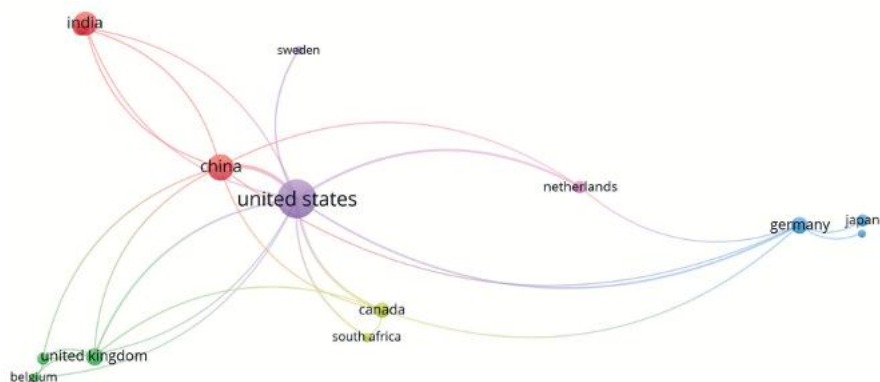


Figure 1: International co-authorship network (207 articles)

Source: Own elaboration based on the Scopus database.

Figure 2 explores the bibliographic coupling between scientific journals that published at least three articles in the analysed dataset. This network visualises the interconnections between journals based on shared references, highlighting prominent journals and their thematic relationships. The journal *World Development* appears central in the network, indicating its significant role in rural labour productivity and related economic studies, frequently cited across different publications. It connects strongly to other influential journals, including the *Journal of Development Economics*, *Economic Development and Cultural Change*, and *China Agricultural Economic Review*, indicating common themes in development and agricultural economics. *Food Policy and Agricultural Economics* (United Kingdom) are also key nodes in the network, suggesting a focus on agricultural productivity and policy implications. The *World Bank Economic Review* shows connections

with journals focused on development and economic growth, indicating its influence on global economic studies. This graph highlights the interdisciplinary nature of rural labour productivity research, with journals from development economics, agricultural economics, and policy analysis frequently sharing references, reflecting the field's diverse scholarly base.

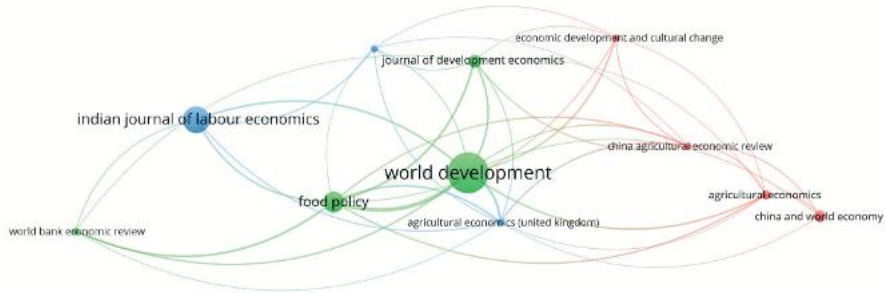


Figure 2: Bibliographic coupling network (207 articles)

Source: Own elaboration based on the Scopus database.

Main themes and keyword co-occurrence network

Table 2 provides a list of authors and index keywords that occurred in at least four articles. The keywords are unstandardised; for example, “labour unstandardized, e.g. “labour productivity” and “labor productivity” are treated as separate keywords.

The central keyword “labour productivity” appears 60 times, and the variant spelling “labor productivity” 16 times. Combined, this topic is mentioned a total of 76 times. The geographical diversity of the research is also significant. Besides India and China, which are key regions, substantial attention is given to areas such as Asia, Africa, and Eurasia. The research also focuses on specific countries like Tanzania, Pakistan, and Ethiopia. The interest in specific countries or regions can be attributed to their large rural populations and dynamic economic changes directly affecting labour productivity in agriculture and other rural sectors.

Other key topics include “productivity” (20 occurrences), “employment” (19 occurrences), “rural area” (18 occurrences), “agricultural labour” (16 oc-

currences), "agriculture" (15 occurrences), "agricultural production" (13 occurrences), "poverty" (13 occurrences), "economic growth" (12 occurrences), "labour market" (12 occurrences), and "rural development" (12 occurrences). These keywords highlight the importance of analysing various aspects of rural economies, including overall productivity, employment structures, agricultural labour characteristics, and living conditions. The recurring focus on agriculture and economic growth suggests a comprehensive approach that considers both the economic and social dimensions of rural life.

Table 2. Most prolific author and index keywords (207 articles)

Rank	keyword	occurrences	Rank	keyword	occurrences
1	labour productivity	60	32	sub-Saharan Africa	7
2	rural economy	22	33	total factor productivity	6
3	India	21	34	wage determination	6
4	China	20	35	economic development	5
5	productivity	20	36	education	5
6	employment	19	37	gender	5
7	rural area	18	38	household survey	5
8	agricultural labour	16	39	income	5
9	labour productivity	16	40	inequality	5
10	agriculture	15	41	informal sector	5
11	agricultural production	13	42	labour mobility	5
12	poverty	13	43	labour market	5
13	economic growth	12	44	nutrition	5
14	labour market	12	45	rural areas	5
15	rural development	12	46	rural-urban migration	5
16	Asia	9	47	Tanzania	5
17	Africa	8	48	agricultural worker	4
18	agricultural development	8	49	developing world	4
19	agricultural productivity	8	50	Ethiopia	4
20	Eurasia	8	51	food industry	4
21	agricultural labour productivity	7	52	health status	4
22	developing country	7	53	income distribution	4

The Green Cluster is anchored by the keyword "China," suggesting that rural productivity research frequently focuses on China's rural and agricultural dynamics. This cluster includes "Migration," "Inequality," "Wage," and "Impact," indicating a strong interest in how labour mobility, income disparities, and economic impacts influence rural productivity. "Remittance" and "Article" appear smaller, suggesting their relevance but with less frequent mention. This grouping highlights that migration and wage structures are central to the productivity discourse in China, with studies often addressing economic mobility and income inequality.

The Red Cluster is centred around "Labour productivity," with other prominent terms including "Evidence," "Farmer," and "Farm." "China" also reappears here, reinforcing its importance in discussions on agricultural productivity. Smaller terms like "Non-farm sector," "Participation," and "Decline" indicate interest in broader rural labour dynamics, such as shifts between farm and non-farm work. Additionally, the Yellow keyword "Change" appears in proximity, suggesting an overlap in research topics related to economic transitions in agricultural productivity studies. This cluster reflects research aimed at measuring and improving productivity in agricultural settings, with China serving as a frequent focal point.

In the Blue Cluster, keywords like "Employment," "Woman," "Level," and "Education" highlight gender roles, education, and social structures as critical factors in rural labour productivity. Specific geographic mentions, such as "Pakistan," imply a focus on regions where gender and educational access directly impact rural labour markets. Terms like "Urban area" and "Structure" suggest that studies in this cluster examine the influence of gender and social factors on both employment levels and economic structure.

The Yellow Cluster focuses on themes concerning infrastructure, health, and social dynamics in rural labour productivity. The largest keywords in this cluster are "Africa," "India," and "Change," indicating a strong regional emphasis on these areas, particularly in terms of transformative social and economic developments in rural settings. This cluster includes additional keywords like "Gender," "Electrification," and "Nutrition," which reflect topics such as access to clean energy, improvements in health, and the gendered aspects of productivity in rural labour markets. The presence of "Height," "Labour market," "Worker," and "Man" further highlights the focus on labour force characteristics and how infrastructural and health improvements –

such as better nutrition and electrification – can enhance productivity. Together, this cluster emphasises research on the intersection of infrastructure, health, and labour force dynamics, with particular attention to how these factors support productivity growth and socioeconomic changes in rural areas, especially in regions like Africa and India.

Each cluster's proximity suggests thematic overlaps, reflecting the complex interdependencies in rural productivity research. For instance, the proximity of the Green and Red Clusters implies that migration, labour supply, and farm productivity are often interconnected, especially in the context of Chinese agricultural studies. Similarly, Yellow and Blue Clusters are closely linked, highlighting that social factors, gender roles, and infrastructure development are frequently studied together, as improvements in infrastructure (like electrification) can enhance educational and employment opportunities, particularly for rural women.

In summary, Figure 3 reveals a comprehensive picture of rural labour productivity research, where core topics like migration, labour supply, social structures, health, and infrastructure intersect across regions, with a significant focus on China and India. This network underscores the importance of addressing productivity from both economic and social perspectives, showing that enhancing rural productivity involves interwoven solutions across labour, gender, infrastructure, and economic policy domains.

The data presented in Table 3 synthesises the main research threads in rural labour productivity, organised into five broad themes: [1] Economic structure, policy, and labour dynamics; [2] Social, cultural, and human capital factors; [3] Land use and agricultural practices; [4] Infrastructure, urbanisation, and economic growth; and [5] Environmental sustainability and technological support. These clusters encompass a range of influential studies, each focusing on critical factors that contribute to or inhibit productivity in rural economies.

Economic structure, policy, and labour dynamics examine how policy reforms and economic structure influence labour mobility and productivity. Key studies in this area include works by Binswanger-Mkhize (2013), Cai (2018), Cai & Wang (2008), Diao et al. (2017), McCullough (2017), Minaile (2018), Minami & Ma (2010), Shi (2018), and Whalley & Zhang (2007). These studies highlight the need to eliminate institutional barriers, such as China's hukou system, to facilitate labour shifts from agriculture to high-

er-productivity sectors, ultimately narrowing income gaps. Research on income diversification and non-agricultural employment by Djido & Shiferaw (2018), Lanjouw (2001), Nguyen et al. (2019), Ruben & Van Den Berg (2001), and Zhu & Luo (2010) shows that while diversification stabilises household income, it may limit agricultural productivity, impacting farm productivity. Institutional reforms, such as those detailed by Wen (1993) through China's Household Responsibility System (HRS), have significantly enhanced productivity by improving resource management. Likewise, land property rights reform in China has stimulated rural entrepreneurship, driving start-ups among professional farmers and urban residents by enhancing access to land and financing (Bu & Liao 2022).

Social, cultural, and human capital factors explore how social structures and human capital investments impact productivity. Research by Begum Sadaquat & Sheikh (2011), Jacoby (1995), Nagler & Naudé (2017), Fafchamps & Quisumbing (1999), and Van Den Broeck et al. (2021) reveals that social factors like gender discrimination and family structures (e.g. polygamy) limit productivity by restricting access to education and wage equality, particularly for women. The human capital aspect is also critical, with studies by Deolalikar (1988), LaFave & Thomas (2017), Jha et al. (2009), and Van Den Broeck et al. (2021) emphasising the long-term effects of health and nutrition on productivity. These studies highlight that chronic malnutrition can substantially hinder productivity, especially in regions with limited healthcare.

Table 3. Key research threads on rural labour productivity and their groupings

Topics	Studies	Description
[1] Economic Structure, Policy, and Labour Dynamics		
Economic Structure, Policy, and Labour Mobility	Binswanger-Mkhize (2013), Cai (2018), Cai & Wang (2008), Diao et al. (2017), McCullough (2017), Minale (2018), Minami & Ma (2010), Shi (2018), Whalley & Zhang (2007)	These studies highlight the importance of policy and structural reforms, such as removing barriers to mobility (e.g. China's hukou system), which enable labour migration to more productive sectors and reduce income inequality.
Income Diversification and Labour Allocation	Djido & Shiferaw (2018), Lanjouw (2001), Nguyen et al. (2019), Ruben & Van Den Berg (2001), Zhu & Luo (2010)	Diversifying income sources and moving to non-agricultural employment increase economic stability for households but may limit agricultural productivity. There is a need for policies that mitigate such trade-offs.

Topics	Studies	Description
Institutional Reforms and Structural Changes	Wen (1993), Bu & Liao (2022)	China's HRS significantly improved productivity by enhancing resource management, showcasing the effectiveness of institutional reforms compared to communal systems. Similarly, land property rights reform in China has spurred rural entrepreneurship, encouraging start-ups among professional farmers and urban residents by improving land access and financing opportunities.
[2] Social, Cultural, and Human Capital Factors		
Social and Cultural Determinants of Productivity	Begum Sadaquat & Sheikh (2011), Jacoby (1995), Nagler & Naudé (2017), Fafchamps & Quisumbing (1999), Van Den Broeck et al. (2021)	Social and cultural factors like gender discrimination and family structure (e.g. polygamy) impact agricultural productivity, especially in terms of women's access to education and wage disparities.
Human Capital, Health, and Nutrition	Deolalikar (1988), LaFave & Thomas (2017), Jha et al. (2009), Van Den Broeck et al. (2021)	Health, including chronic malnutrition, and investments in early childhood (e.g. height as an indicator of nutrition) have long-term effects on productivity, especially in regions with limited access to healthcare.
[3] Land Use and Agricultural Practices		
Production Model, Farm Size, and Market Integration	Collier & Dercon (2014), Cornia (1985), Dubbert (2019)	Diversity of production models and access to credit improve productivity, and commercial farms and microfinance support overall productivity.
Land Fragmentation and Consolidation	Jia & Petrick (2014), S. Liu et al. (2018), Zhang et al. (2020), Zhang et al. (2021)	Land fragmentation reduces productivity, but consolidation and land rental systems support better labour allocation and productivity, especially for small farms.
[4] Infrastructure, Urbanisation, and Economic Growth		
Infrastructure, Seasonality, and Market Access	Dercon & Gollin (2014), Emran & Shilpi (2018), Glaeser & Xiong (2017), Kaczan (2020)	Access to infrastructure, such as roads, reduces reliance on natural resources and supports employment diversification, while seasonal agricultural fluctuations affect income stability.
Urbanisation, Energy Use, and Economic Growth	Krey et al. (2012), Kuijs & Wang (2006), Vandecasteele et al. (2018)	Urbanisation and proximity to urban markets increase agricultural productivity and crop intensification, which, in turn, support economic growth.
[5] Environmental Sustainability and Technological Support		
Energy Transition and Health	Maji et al. (2021), Rathi & Vermaak (2018)	Access to clean energy improves health, particularly for women, and thus enhances productivity. Transitioning to electricity reduces biomass dependency and improves work efficiency.

Topics	Studies	Description
Environmental Quality and Agricultural Productivity	Salvati & Carlucci (2011)	Sustainable practices support agricultural productivity, while environmental degradation reduces productivity, particularly in economically disadvantaged regions.
Financial Structures and Technological Support	Serrano-Cinca & Gutiérrez-Nieto (2014)	Microfinance targeting the poorest can boost farm productivity despite high operational costs, and technology and subsidies are recommended to improve efficiency and reduce costs.

Source: Own elaboration.

Land Use and Agricultural Practices addresses the impact of farm size, production models, and land consolidation on productivity. Collier & Dercon (2014), Cornia (1985), and Dubbert (2019) highlight how diverse production models and market integration boost productivity, especially when credit and microfinance support are available. However, studies on land fragmentation by Jia & Petrick (2014), Liu et al. (2018), Zhang et al. (2020), and Zhang et al. (2021) indicate that while small, fragmented farms may struggle with efficiency, land consolidation and rental systems can enhance productivity by optimising resource use, particularly for small farms.

Infrastructure, Urbanisation, and Economic Growth emphasises the influence of infrastructure and urbanisation on rural productivity. Research by Dercon & Gollin (2014), Emran & Shilpi (2018), Glaeser & Xiong (2017), and Kaczan (2020) highlights that access to infrastructure like roads and market connectivity reduces reliance on natural resources, stabilises income, and facilitates employment diversification. Additionally, studies by Krey et al. (2012), Kuijs & Wang (2006), and Vandecasteele et al. (2018) reveal that urbanisation and proximity to cities boost productivity by encouraging crop intensification and providing access to profitable markets, supporting economic growth in rural regions.

Environmental Sustainability and Technological Support focuses on the role of clean energy, sustainable practices, and financial structures in enhancing productivity. Maji et al. (2021) and Rath & Vermaak (2018) show that transitioning to clean energy sources like electricity improves health, particularly for women, by reducing dependence on biomass and thereby enhancing work efficiency. Salvati & Carlucci (2011) illustrate that environmental deg-

radation negatively impacts productivity, while sustainable practices support agricultural output, especially in economically disadvantaged areas. Lastly, research by Serrano-Cinca & Gutiérrez-Nieto (2014) underscores the role of microfinance and technological innovation in increasing efficiency and reducing operational costs in agriculture, which is particularly valuable in resource-limited settings.

Together, these studies provide a comprehensive look at the factors shaping rural labour productivity and identify potential areas for policy intervention to foster sustainable growth and improve productivity outcomes in rural economies.

Conclusions

This study addresses the three central research questions concerning rural labour productivity to synthesise the existing economic literature from the past five decades. First, we identify five main research threads in the literature: [1] Economic structure, policy, and labour dynamics; [2] Social, cultural, and human capital factors; [3] Land use and agricultural practices; [4] Infrastructure, urbanisation, and economic growth; and [5] Environmental sustainability and technological support. These clusters reflect the complexity of rural labour productivity and the intersecting economic, social, and environmental factors that drive it. Key areas within these threads include labour migration, gender and social equity, technological advancement, and sustainable practices, revealing a nuanced understanding of productivity beyond traditional agricultural outputs.

Second, the countries, journals, and publications advancing rural labour productivity research emphasise a global collaboration pattern, with the United States, China, India, and several European countries (e.g. Germany, the Netherlands, and the United Kingdom) at the forefront. China's extensive focus on rural labour dynamics, migration, and land reform policies emphasises its significant role in this field. Influential journals like *World Development*, the *Journal of Development Economics*, and *Food Policy* frequently serve as conduits for these studies, linking research across development economics, rural studies, and policy analysis.

Third, the relevance of rural labour productivity research to modern economic analysis and policy is underscored by the persistent rural-urban disparities and evolving rural labour structures in an increasingly interconnected global economy. As rural areas face structural changes due to urbanisation, technological innovation, and environmental challenges, this research provides a basis for policies promoting rural development and inclusive growth.

In conclusion, this review highlights the relevance of rural labour productivity research for addressing global challenges, from poverty alleviation and economic inequality to gender equity and sustainable development. The combination of traditional farming practices and institutions with new-age technologies and inclusivity-related growth in human capital provides exciting opportunities for economic analyses. Future research could benefit from a deeper exploration of regional variations, particularly in underrepresented areas like Latin America and parts of Africa, as well as from longitudinal studies that track changes over time in response to policy interventions. Addressing gaps in data availability and standardising methodologies across studies may further enhance the practical impact of rural labour productivity research for policymakers and practitioners focused on sustainable and inclusive rural development.

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Rural Change at the Urban Fringe: Suburbanisation and Discursive Repositioning in Ballószög's Relationship with Kecskemét (1954–2012)

Abstract

This paper investigates the spatial and discursive transformation of the relationship between Ballószög, a peri-urban village in Hungary, and the nearby regional centre of Kecskemét between 1954 and 2012. The study contributes to broader debates on urban – rural relations, suburbanization, and post-socialist restructuring by analysing how proximity to an urban core shaped local development trajectories and identity formation. Drawing on a qualitative content analysis of 129 local and regional newspaper articles, the paper explores how discourses of dependency, integration, and autonomy evolved over time. The empirical findings reveal a three-phase developmental trajectory: a period of administrative separation and functional subordination (1954–1979), a transitional phase marked by spatial reconfiguration and emerging local agency (1980–2000), and a phase of integration characterized by increasing cooperation and regional embeddedness (2001–2012). A complementary vertical model is introduced to capture the structural deepening of the relationship alongside chronological shifts. The analysis shows that Ballószög's trajectory cannot be understood solely through demographic or infrastructural data but requires attention to how local identity and spatial roles were negotiated discursively within the broader urban-peripheral context. The findings have relevance for understanding the dynamics of other post-socialist urban fringes, where similar inter-settlement asymmetries and identity dilemmas persist.

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Keywords: Hungary; suburbanization; post-socialist transformation; urban–rural relations; discourse analysis; regional integration

Introduction

Reconsidering the relationship between urban and rural areas has become a central concern in contemporary research in human geography, urban sociology, and rural policy, particularly in post-socialist contexts. In these regions, the transition to a market economy, the restructuring of state involvement, and the commodification of spatial practices have produced new urban-peripheral dynamics (Brenner 2004; Cloke 2006; Halfacree 1993; Hirt 2012; Stanilov 2007; Sýkora 1999; Tsenkova 2006; Woods 2007).

In contrast to earlier dichotomous approaches, current scholarship emphasises urban-rural continuums and mutual interdependencies. The specific conditions of post-socialist countries offer a distinctive lens for examining these relationships, as the post-1989 transition required a rethinking of settlement hierarchies, the functions of regional centres, and the integration of rural areas (Sýkora 1999; Tsenkova 2006; Hirt 2012).

Within this theoretical framework, suburbanization has emerged as a key area of inquiry in Hungary over the past three decades. Research has explored developments around Budapest (Dövényi & Kováts 1999; Schuman 2015), across the Great Hungarian Plain (Bajmócy 2003; Tímár 1993), and within regional centres (Bajmócy 1999, 2000; Hardy 2002; B-né Pristyák & Kókai 2012; Szebényi 2016; Kristóf 2018). While large-scale processes of urbanization and suburbanization have been examined extensively, less attention has been paid to the ways in which local communities located in the immediate periphery of cities – often targets of suburban expansion – construct their identity, development narratives, and institutional relationships.

This study addresses this gap through an analysis of Ballószög, a Hungarian village whose development has been strongly shaped by its proximity to the regional centre of Kecskemét. The historical trajectory of Ballószög is tightly interwoven with the spatial, economic, and social transformations of the nearby city, which lies only a few kilometres away. This proximity, however, involved more than physical nearness, as it also produced a complex and historically shifting relational structure between the two settlements.

Comparable dynamics have been observed in other post-socialist peri-urban zones, such as the outskirts of Prague or Sofia, where formerly subordinated villages have experienced processes of regional integration alongside the pursuit of partial autonomy (Stanilov 2007; Sýkora & Bouzarovski 2012).

This article examines the spatial relationship between Ballószög and Kecskemét not only as a historical process but also through a relational and theoretical lens. It argues that post-socialist peri-urban settlements cannot be adequately described through static centre-periphery models, as their spatial embeddedness is contingent, historically situated, and discursively constructed. By engaging with poststructuralist geographical thought (Lefebvre 1991; Massey 1994; Paasi 2002), the study introduces a three-phase developmental model – dependency, duality, and integration – that captures temporal and structural shifts in the nature of urban-rural relations. This perspective allows suburbanization to be interpreted not merely as a demographic or economic phenomenon, but as a multidimensional process shaped by institutional practices, everyday interactions, and local narratives of identity and belonging.

The research is grounded in the hypothesis that Ballószög's development was shaped primarily by its geographical and institutional proximity to Kecskemét. The study explores how the village's development trajectory and local identity were constructed through the discursive framing of this relationship, and it reveals the ways in which proximity and dependency were reinterpreted over time. It further hypothesises that this relationship evolved not through a linear process of modernization, but through historically contingent shifts between dependency, duality, and integration, which reflect broader patterns of post-socialist peri-urban change. Beyond its local relevance, this analytical framework contributes to wider theoretical debates on the relational construction of urban-rural space.

Methodology

Media analysis offers a valuable means of tracing how the social interpretation of the relationship between Ballószög and Kecskemét has evolved over time – across periods when Ballószög was represented as an autonomous settlement, when it appeared to remain in the shadow of the city, and when phases of close cooperation were emphasised. A key premise of poststruc-

turalist geographical thought is that place is not merely a physical locality, but a socially, historically, and discursively constructed entity (Lefebvre 1991; Massey 1994; Paasi 2002; Woods 2007). The identity of a place is therefore not fixed, but continually (re)produced through the practices, narratives, and interactions of various social actors and institutions. This perspective is particularly relevant in cases where a small settlement is located in close proximity to a regional urban centre.

In this context, the press functions not only as a source of information, but also as an active medium of meaning-making, and thus as a key arena of spatial representation and identity construction. Especially in post-socialist contexts, media discourses have played an important role in shaping modernization narratives and reframing relationships between urban centres and their rural peripheries (Fairclough 1995; Hirt 2012; Tsenkova 2006; Wodak & Meyer 2001). Local and regional newspapers have not only reported events, but have also articulated normative visions of desirable development trajectories, centre-periphery relations, and modernization schemes for so-called 'scattered rural settlements'.

Over time, these media discourses shifted, introducing new themes and interpretive frameworks. The empirical foundation of the present study consists of the systematic collection and qualitative analysis of press materials reflecting the relationship between Ballószög and Kecskemét. The aim was to reconstruct the historical trajectory of inter-settlement relations and the associated patterns of meaning through sources available in local and regional media.

The first step involved identifying newspapers that regularly reported on both settlements over a longer time span:

- Bács-Kiskun Megyei Népújság (1954–1956)
- Petőfi Népe (1956–2012)

The selection criteria included regular publication, local thematic focus, event-driven structure, and digital availability. The second step consisted of compiling a broader set of potentially relevant articles. Articles were selected if Ballószög constituted their primary focus. The source base comprises articles published between 1954 and 2012. The starting date corresponds to Ballószög's administrative autonomy, while the endpoint reflects the last digitally available issue of the local newspaper used. Filtering was conducted through keyword searches ('Ballószög', 'Ballószög község', 'Külső-Ballószög'), complemented by manual reading. The resulting full corpus comprises

449 articles. Given the aims of this study, only those articles referring to the relationship between Ballószög and Kecskemét were considered analytically relevant. Accordingly, the third step involved a thematic selection process, identifying texts that explicitly or implicitly reflected on the dynamics between the two settlements. This thematic focus enabled a more targeted inquiry into spatial and historical changes in the centre-periphery relationship. As a result of this filtering process, 129 articles were selected for in-depth analysis (Table 1).

Table 1. Number of local newspaper articles collected for analysis

Period	Total number of articles	Number of relevant articles
1954–1959	69	11
1960–1969	43	14
1970–1979	77	28
1980–1989	46	22
1990–1999	85	18
2000–2013	129	36
Total	449	129

Source: Author's data collection

The fourth step involved preparing the text corpus for qualitative content analysis. The selected press articles were organised in a structured table including the year and source of publication, the article title or section heading, the full text, a thematic summary, and a qualitative classification of the relationship between Ballószög and Kecskemét (e.g. subordination, partnership). The organised material was then subjected to content analysis and iterative close reading. Particular attention was paid to shifts in relational narratives, the presence of institutional and discursive references, and changing interpretations of spatial function and role. Through this process, discursive turning points were identified – moments in the tone of the articles, topics, and relational framing that marked the emergence of new developmental phases in the relationship between the two settlements. The delimitation of historical periods was based on both inductive patterns observed in the press materials and relevant historical contexts, such as regime change, administrative reforms, or major infrastructural investments. Based on the iterative reading

and interpretation of press discourses, the article applies a three-phase developmental model – dependency, duality, and integration – to capture the changing relational structure between Ballószög and Kecskemét. These phases do not correspond to rigid historical eras; rather, they reflect discursively constructed patterns that emerged and shifted over time. This analytical framework draws on a poststructuralist understanding of space as relational and processual, enabling a more nuanced interpretation of urban-rural dynamics beyond static centre-periphery dichotomies.

General Spatial and Demographic Profile of Ballószög

In order to situate the spatial embeddedness of Ballószög within a meaningful analytical framework, it is necessary to outline the settlement's general demographic and geographical characteristics. These structural features constitute the preconditions for the centre-periphery relationship that developed with Kecskemét – an evolving dynamic whose historical interpretation represents one of the central aims of this study.

Ballószög is a rural settlement located in Bács-Kiskun County, approximately 10 kilometres from the city of Kecskemét, within its inner peri-urban catchment area (Figure 1). The settlement does not have a direct connection to a national main road; Route 52 merely touches its eastern-northeastern boundary. In addition, railway services were discontinued in 2007. Nevertheless, Ballószög's transport accessibility cannot be regarded as unfavourable: Kecskemét's city centre can be reached by car within 10–15 minutes via secondary road No. 53101.

Historically, Ballószög formed part of Kecskemét's outer homestead zone, where animal husbandry initially predominated, later giving way to viticulture and fruit production as the main forms of economic activity (Lettrich 1968). Like many other homestead-based villages (*tanyaközségek*), Ballószög gained administrative independence during the state-led policy of rural municipalisation implemented between 1949 and 1956 (Bajmócy 2001; Becsei 1993, 1995, 1996, 2004, 2007; Belényi 1998; Csátári 2004; Duró 1995, 2000; Erdei 1976; Orbán 1980). During this process, the outer homestead areas of Kecskemét were reorganised into independent municipalities through administrative measures.

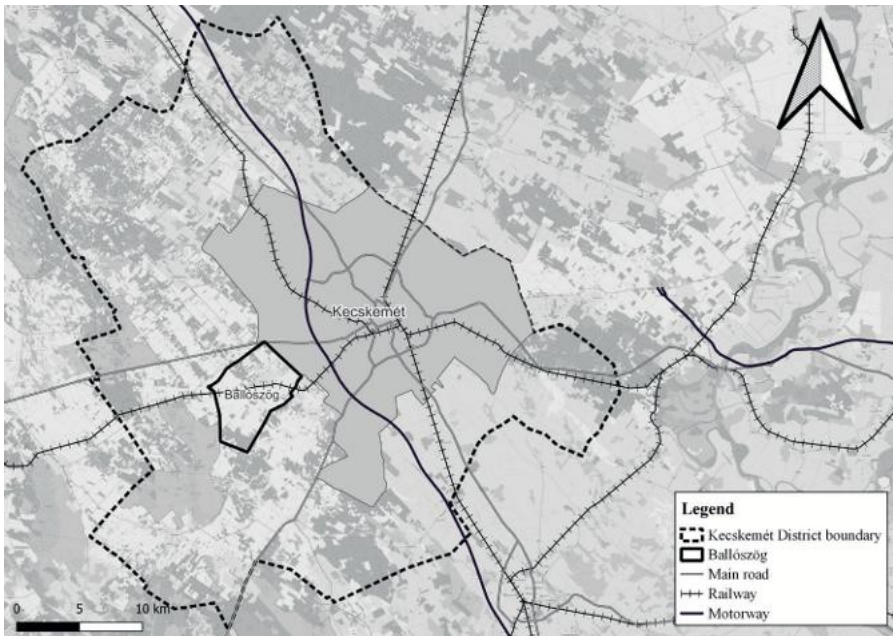


Figure 1: Spatial location of Ballószög

Source: Author's own editing

Between 1960 and 1970, Ballószög experienced a marked population decline of 20.4%, with the number of residents falling from 2,499 to 1,988. Although the population of the inner settlement core increased during this period, this growth occurred at the expense of the scattered homesteads. The primary driver of decline was out-migration, reflected in a negative migration balance of –288. By the 1970s, the pace of population loss slowed (–124 individuals), and during the 1980s the population began to stabilise. Between 1980 and 1990, the number of residents increased modestly from 1,864 to 1,950 (+4.6%). Following the political regime change, the village's population grew rapidly: between 1990 and 2001 it increased by 37%, from 1,950 to 2,672, followed by continued growth until 2011, when the population reached 3,260. The most recent data from 2022 indicate further demographic expansion to 4,311 residents, representing a 32.2% increase since 2011 (Figure 2).

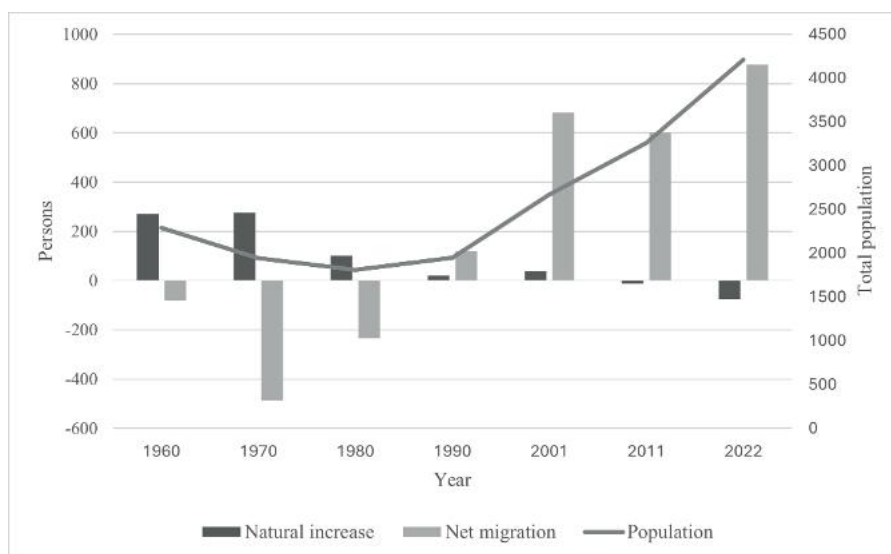


Figure 2: Components of population change and total population growth in Ballószög (1960–2022)

Source: Author's own editing based on census data

These demographic trends were accompanied by significant changes in the housing stock. Between 1960 and 1970, the number of dwellings declined from 717 to 672, followed by a gradual increase to 675 dwellings in 1980 and 733 by 1990. The most substantial expansion occurred after 1990, with the housing stock reaching 1,423 dwellings by 2022. Notably, 313 of these homes – approximately 22% of the total stock – were constructed after 2010. New development has been concentrated primarily on the periphery of the central built-up area and in the northern and eastern garden plot zones (zárt-kertes övezetek), indicating both internal spatial restructuring and emerging processes of urbanisation (Figure 3).



Figure 3: Spatial distribution of residential buildings by year of construction in Ballószög

Source: Author's own editing

On the basis of demographic and housing development trends, Ballószög can be characterised as a transforming settlement that is increasingly integrated into urban fringe dynamics. This transformation involves not only quantitative growth but also qualitative changes in land-use patterns and local identity. The rising population of the garden plot areas (*zártkertes övezetek*) and the expansion of the inner built-up area suggest that the village is becoming more deeply embedded within the urban catchment area of Kecskemét, while simultaneously reorganising its internal spatial structure. However, these processes cannot be fully understood through statistical analysis alone. It is therefore essential to examine how these transformations have been represented in public discourse – specifically, the narratives and interpretations that have accompanied the evolving relationship between Ballószög and Kecskemét.

Discourse, Dependence, and Transformation: Temporal Phases in the Ballószög-Kecskemét Relationship (1954–2012)

The relationship between Ballószög and Kecskemét has undergone significant spatial, institutional, and economic transformations from the mid-20th century to the early 21st century. This chapter examines these shifts through the lens of local and regional press discourse, which not only reflects but also actively shapes the evolving dynamics between the two settlements. Drawing on a qualitative analysis of newspaper articles published between 1954 and 2012, the chapter identifies three distinct historical phases – dependency, duality, and integration – each characterised by specific configurations of spatial embeddedness, institutional arrangements, and discursive framings.

Rather than treating the local press as a passive mirror of reality, this analysis approaches media discourse as a constitutive element in the representation and reproduction of centre-periphery relations. The selected newspaper excerpts illustrate how Ballószög's position within the Kecskemét metropolitan region was narrated and legitimised across different decades, providing insight into how rural-urban interdependencies were normalised, contested, or reconfigured over time. Through this perspective, the chapter reconstructs a temporal sequence of interrelated yet analytically distinguishable phases, each marked by shifts in the language of governance, development, and territorial identity.

Dependency Phase (1954–1979)

The period between 1954 and 1979 represents a foundational phase in the evolving relationship between Ballószög and Kecskemét, characterised by a dual process of formal separation and continued functional subordination. During this period, Ballószög attained administrative autonomy, yet remained structurally embedded within the socio-economic and institutional systems of the nearby regional centre.

The Period of Administrative Autonomy and Local Institution-Building (1954–1960)

The process of administrative independence began in 1954, when Ballószög became an autonomous municipality. The local press reported the event as follows:

‘More than 3,000 residents of Ballószög are currently electing their council members as an independent municipality. The new council apparatus will advance the life of the village.’ (Hírek, Bács-Kiskun megyei Népújság, 1954, 9(245): 4)

This milestone marked the beginning of a local institution-building process and signalled a formal detachment from Kecskemét. Some economic and administrative connections were reconfigured during this period, including the dissolution of the joint urban tariff system. Local infrastructure investments also began:

‘The village council of Ballószög purchased a hammer mill from the local development fund, which will be put into operation in two weeks. This is a great joy for the working peasants of the village, as they will no longer need to cart their grain to Helvécia or Kecskemét for milling.’ (Hírek, Petőfi Népe 1957, 2(206): 2)

Originally, the separation from Kecskemét was accompanied by strong local enthusiasm and expectations of self-determination. In practice, however, the newly gained autonomy soon revealed the structural limits of independence, as everyday life, employment, and services remained closely tied to the city. Despite these developments, the detachment from Kecskemét remained incomplete. Functional connections – including transportation, services, education, and cultural programming – persisted and, in some cases, intensified. One of the clearest examples of this process was the expansion of the commuting network:

‘At the request of workers from Ballószög and Matkó, the Kecskemét City Bus Company will launch a trial service from July 22 (Sunday), operating on Sundays, Tuesdays, and Fridays along Halasi Road to Felsőmatkó (Tobacco Drying Facility).’ (Örömhír a felsőmatkóiaknak, Petőfi Népe, 1957, 2(221): 1)

The ideological and cultural embeddedness of Ballószög was further reinforced through centrally coordinated educational programmes:

‘As in every year, cultural life becomes livelier in autumn and winter. This is also true around Kecskemét, where a whole network of public education institutions coordinates activities to meet the cultural needs of the working individuals across the vast homestead areas. Educational initiatives are also starting. [...] Most recently, for example, an agricultural professional lecture was held in Ballószög.’ (Élénk kulturális élet a Kecskemét környéki tanyavilágban, Bács-Kiskun megyei Népiújság, 1955, 10(246): 3)

By the end of the 1950s, it had become increasingly clear that administrative autonomy had not translated into structural independence. The following decades witnessed the consolidation of functional and institutional ties that kept Ballószög within the gravitational field of Kecskemét.

The Period of Consolidated Functional Dependence (1961–1979)

The period from 1961 to 1979 saw the consolidation of these ties in the form of institutional and functional dependence. While Ballószög operated as a formally independent municipality, the majority of its population continued to rely on Kecskemét for employment, education, and services. The local press frequently referred to this relationship using terms such as ‘functional dependence’ or a ‘core-periphery relationship’. One particularly stable pillar of this dependence was commuter labour:

‘Out of the 20 to 23 eighth-grade students graduating each year, only five or six remain in Ballószög. The pull of Kecskemét must still be reckoned with.’ (A múlt és a jövő mezsgyéjén, Ballószögi változások, Petőfi Népe, 1965, 20(208): 3)

Infrastructural shortcomings – especially in education, healthcare, and retail – also reinforced Ballószög’s dependence on Kecskemét. Demand for institutional services in the city remained high:

‘These villages have not only been historically closely tied to the city, but today’s supply, distribution, and other functions also constitute a mutual attraction in the

lives of Kecskemét and the surrounding smaller settlements... There was unanimous agreement, for instance, on the urgent need to establish a weekday dormitory in Kecskemét to accommodate upper primary school students.' (Fejlődnek a Kecskemét környéki kisközségek. *Petőfi Népe*, 1971, 26(55): 1)

A 1972 report further noted that Ballószög continued to exhibit the characteristic service deficiencies of dispersed rural settlements:

'The actual character of the aforementioned villages is only beginning to take shape, as they are largely dispersed settlements, and thus their commercial supply issues resemble those generally found in homestead regions.' (A peremrészek ellátásáért, *Petőfi Népe*, 1972, 27(50): 1)

Finally, a mid-1970s article emphasised the lack of healthcare infrastructure as a continuing source of dependence:

'This peripheral settlement does not have a medical clinic; consequently, residents travel to the city centre for healthcare services.' (Sajtóposta – Kecskeméti észrevételek, javaslatok Volán-ügyben, *Petőfi Népe*, 1979, 32(148): 4)

In summary, the years between 1954 and 1979 represent a phase of dependency constructed both discursively and functionally. Although Ballószög gained political-administrative autonomy, this shift did not result in a symmetrical relationship with Kecskemét. Instead, the village's socio-spatial embeddedness persisted and even intensified, particularly in the domains of labour, education, services, and ideological control. Here, the concept of 'dependency' extends beyond economic ties to encompass spatial practices, institutional hierarchies, and discursive framings that positioned Ballószög as a subordinate locality within Kecskemét's metropolitan region. These deeply entrenched patterns of dependency provided the structural and discursive foundations upon which the duality of the 1980s would later emerge.

Duality Phase (1980–2000)

The period between 1980 and 2000 marks a turning point in the evolving balance between dependency and autonomy. During these two decades,

Ballószög was shaped simultaneously by the enduring gravitational pull of Kecskemét and by emerging local aspirations for independence. The 1980s witnessed the consolidation of suburban integration and commuting-based dependence, while the 1990s introduced political decentralization and new experiments in self-governance. This coexistence of structural subordination and symbolic assertion constitutes the core of the ‘duality phase’, reflecting broader regional patterns of post-socialist transformation in Hungary.

The strengthening of the ‘suburban’ role and the prelude to suburbanization (1980–1989)

During the 1980s, Ballószög increasingly assumed the role of Kecskemét’s ‘garden suburb’, as demographic growth, housing development, and urban overflow redefined the village’s spatial function. Although administrative and infrastructural dependencies persisted, this period introduced a new layer of integration rooted in residential relocation and commuter practices.

Press materials from the 1980s reveal growing concern about the spatial expansion of Kecskemét into its surrounding settlements. Ballószög was no longer perceived solely through the lens of functional or institutional dependence, but increasingly as a peri-urban residential zone. Urban development strategies framed the village primarily as a labour and housing reserve, subordinating its growth trajectories to the needs of urban expansion.

This dynamic was particularly visible in housing trends, as land prices and real estate availability prompted many city dwellers to settle in Ballószög. A 1980 article offered a striking comparison between urban and rural land costs. This decade also marked a subtle discursive shift: whereas earlier reports emphasised rural modernization and urban-rural cooperation, by the late 1980s the tone had become more ambivalent – acknowledging the advantages of proximity to Kecskemét while simultaneously expressing growing concerns about dependency and marginalization:

‘There will be an even greater need for housing applicants to build their own homes using private resources. This is more easily achievable in smaller settlements than in cities. Why? Let us consider a comparative example that provides the answer: in Ballószög or Hetényegyháza, one can buy a suitable plot for family house construction for 20,000–24,000 forints. In Kecskemét – for example, along Mátyás Király Boulevard – the cost of a plot per dwelling

unit amounts to 214,000 forints. This example may seem extreme, but even half of that amount would still be considered high.’ (*Drágák a telkek – Leendő lakók gondjai a kecskeméti Műkertvárosban. Petőfi Népe*, 1980, 35(174): 3)

Despite these residential changes, Ballószög remained economically dependent on Kecskemét. Employment opportunities within the village were scarce, making commuting a widespread necessity. The growing intensity of this dependency was reflected in transportation statistics:

‘The public transport system of the county seat is inseparable from the transportation of its peripheral areas. More than twenty settlements belong to Kecskemét’s sphere of attraction – not in the administrative sense created by regional restructuring, but in terms of actual functional ties. This means that workers and individuals attending to their affairs travel daily to and from Kecskemét from these towns and villages. To illustrate the extent of this phenomenon, it is worth citing some examples of how the number of public bus services increased between 1970 and 1983. In the Ballószög-Kecskemét relation, the number of bus routes rose from 26 to 46; in the Helvécia-Kecskemét relation from 14 to 46; between Hetényegyháza and Kecskemét from 26 to 52; and in the Fülöpháza-Kecskemét relation from 4 to 9.’ (*Kecskemét és környékének tömegközlekedése. Petőfi Népe*, 1984, 39(92): 4)

Institutional self-sufficiency likewise remained elusive. Ballószög relied heavily on Kecskemét’s urban infrastructure for basic services. Contemporary articles frequently described this relationship using a ‘patron-dependent’ model:

‘As the report pointed out, the county seat has some role in providing services for approximately 230,000–250,000 individuals in one way or another. A significant responsibility lies in taking care of the population of the four suburban villages – Ballószög, Helvécia, Hetényegyháza, and Városföld.’ (*A megyeszékhely gyarapodása nem csak a város lakóinak szívégye. Petőfi Népe*, 1980, 35(31): 1)

By the end of the 1980s, the limitations of the suburban model had become increasingly apparent. Although Ballószög benefited from demographic inflows and infrastructural integration, it remained dependent on Kecskemét’s labour market and institutions. The collapse of socialism and the regime change of 1989–1990 fundamentally redefined these inherited struc-

tures. The following decade thus opened a new chapter in which political decentralization and market transition reshaped both the meanings and mechanisms of local autonomy.

The Period of Post-Socialist Restructuring and Local Agency (1990–2000)

Following the regime change, the 1990s introduced a new layer of complexity. The tone of public discourse shifted as the optimism of socialist modernization gave way to narratives of crisis, uncertainty, and local self-reliance. Earlier patterns of economic and institutional subordination persisted, but they were now refracted through the lens of market instability and newly acquired local political autonomy. While Ballószög continued to depend on Kecskemét for employment, new survival strategies began to emerge, often rooted in informal practices. A 1990 article vividly captured the dual pressures of economic hardship and dependency:

‘We used to live well,’ says Mrs. Péter Fodor, a shift supervisor at the Kecskemét Canning Factory, pensively. ‘Anyone who denies that is not telling the truth. My husband works here at the factory as a locksmith; we have three children. We managed to build a house in Ballószög, more or less furnish it, and four and a half years ago we even bought a car. [...] But after the price increases, my husband and I sat down and went over all our expenses. [...] Earlier, Mrs. Fodor mentioned that the two of them earned good money: they fatten pigs at home, keep chickens, and grow vegetables and potatoes in the garden. [...] Even our situation feels hopeless—but what about those whose monthly income doesn’t even reach half of ours? [...] I don’t believe in anyone or anything anymore. They spend hundreds of millions on poplar planting, referendums, and foreign aid, while workers, ordinary individuals, are left with nothing to eat.’ (Kilátástalanság, reménytelenség Egy munkáscsalád költségvetése. *Petőfi Népe*, 1990, 45(20): 5)

At the same time, the decentralization of governance opened new avenues for local agency. Ballószög began to pursue not only material development but also symbolic independence through the creation of institutions and public spaces. One article highlighted these aspirations:

'Although the population of the settlement has stagnated, kindergarten enrolment stands at 135 percent, and there is still no dentist. Nevertheless, the 2,200 residents of this village near Kecskemét have much to be pleased about: a preliminary decision has been made to establish a community centre, with construction expected to begin in 1992. The planned 12 million forint facility would accommodate all cultural activities of the community. The plot for the Roman Catholic church has been secured, fundraising is ongoing, and construction may start by spring. The number of shops is also notable: a stationery shop, grocery store, café, restaurant, general store, second-hand clothing shop, and soft drink store serve customers daily in Ballószög.' (*Örömhírek Ballószögről*. Petőfi Népe, 1991, 46(249): 5)

Local debates also highlighted the dilemmas of this transition, as illustrated by a conflict over infrastructure investment:

'Recent social and economic changes have made it necessary to revise the village development plan,' began Deputy Mayor László Harsányi in his introduction to the first agenda item. He stated that the community's only chance for further development lay in creating conditions – such as the establishment of industrial zones and jobs – that could attract entrepreneurs. [...] According to the local government and its supporters, the planned community centre would resolve long-standing cultural and communal issues in the village. However, another group regarded it as an excessive and unnecessary expense, arguing that it would merely become another pub, since a private entrepreneur had been granted the opportunity to open a catering facility there. (*Viharos falugyűlés Ballószögön*. Petőfi Népe 1993, 48(303): 5)

Such debates reveal that local development was not merely an economic issue but also a symbolic struggle over the future identity of the community – whether Ballószög should remain an independent rural locality or evolve into a suburban extension of the city. These tensions reflected the village's ongoing search for identity within a transforming regional landscape.

Although the centre-periphery pattern persisted, new frameworks of co-operation also began to emerge. Ballószög actively sought to reposition itself within the regional space. One example of this effort was the establishment of the Central Sand Ridge Association (KÖHOSZ) with neighbouring villages:

‘As Lászlóné Máté, the mayor of Ballószög, stated, the leaders of the five municipalities [...] hope that the grant applications submitted through the association will be evaluated more favourably than individual initiatives by each village.’ (Társulnak a kistelepülések. *Petőfi Népe*, 1996, 51(180): 3)

In sum, the duality phase (1980–2000) was characterised by a layered interplay of continued dependency and emerging agency. While Ballószög remained embedded within Kecskemét’s urban sphere – economically, infrastructurally, and spatially – it also began to experiment with forms of local initiative, symbolic differentiation, and regional collaboration. The village simultaneously functioned as a residential periphery, a dependent commuter hub, and a site of decentralising aspirations. These parallel dynamics constituted the defining features of the duality phase.

The Integration Phase (2001–2012): Period of Integration and Regional Embeddedness

Between 2001 and 2012, a new phase unfolded in the relationship between Ballószög and Kecskemét, marked by intensifying suburbanisation, deepening functional cooperation, and the growing influence of regional development frameworks. In contrast to earlier periods dominated by structural asymmetry, this era witnessed the emergence of a more reciprocal model of interaction, in which the language of ‘dependence’ gave way to that of ‘integration’, ‘partnership’, and ‘autonomy’. These shifts signalled Ballószög’s redefinition not as a peripheral settlement, but increasingly as an active, self-organising node within the Kecskemét agglomeration.

Ballószög emerged as a primary destination for urban outmigration, with suburbanisation unfolding within a planned and policy-driven framework. Contemporary press coverage emphasised that Ballószög and Helvécia alone accounted for more new housing construction than the other eight surrounding villages combined – a trend attributed to the area’s tranquillity, affordability, and transport accessibility:

‘Ballószög and Helvécia are the two most popular and most dynamically developing settlements, as these two alone account for as many new constructions as the other eight villages combined. This trend may be explained by the fact

that Ballószög and Helvécia are easily accessible by public transportation. Those moving out of the city long for the tranquillity of the countryside, yet their work still ties them to Kecskemét.’ (Sok lakás épül Kecskeméten – A város környékén Ballószög és Helvécia a legnépszerűbb. *Petőfi Népe*, 2003, 58(25): 7)

Rather than passively absorbing urban spillover, Ballószög actively shaped this growth through targeted land-use and development strategies. As one article noted, more than 300 new residents had settled in the village as a result of municipal initiatives that designated and sold over 100 building plots:

‘In recent days, the population of the village has surpassed 3,000. Thanks to the municipality’s settlement development strategy, approximately one hundred building plots have been designated and sold in the village over the past three years. As a result, more than three hundred people have moved to this settlement near Kecskemét.’ (*A Duna-Tisza köze A-tól Z-ig – Ballószög. Petőfi Népe*, 2005 60(270): 3)

The 2008 announcement of the Mercedes-Benz factory in Kecskemét further catalysed these trends. Ballószög responded proactively by initiating negotiations for a residential park intended to accommodate incoming factory workers. This industrial investment not only intensified regional housing and labour flows but also symbolically marked Ballószög’s transition from passive dependency to proactive integration:

‘It is anticipated that 400–500 employees of the Mercedes factory will settle in the area with their families. For this reason, the Ballószög local government is in negotiations with the company regarding the development of a residential park zone.’ (*Gyarapodik a falu óvodája -Lakóparkos övezet építéséről tárgyalnak a Mercedessel. Petőfi Népe*, 2008, 63(221): 4)

Press narratives during this period increasingly replaced the language of shortage and dependency with that of partnership, competitiveness, and local initiative. This linguistic shift reflected a broader redefinition of Ballószög’s position – from a passive periphery to a self-confident suburban actor.

The village’s evolving relationship with Kecskemét was also manifested in joint infrastructure and development projects. Initiatives such as regional sewerage construction were organised through partnerships among neigh-

bouring municipalities and supported by the EU funding. These projects symbolised a transition from dependency-based service provision to coordinated regional planning:

'Kecskemét and three neighbouring settlements have received 5.8 billion forints in non-refundable support from the European Union for the implementation of a sewage infrastructure program. [...] Szécsi Gábor, Mayor of Kecskemét, informed the press yesterday, stating that Kecskemét, Kerekegyháza, Ballószög, and Helvécia jointly applied for funding under the ISPA program, which supports environmental and transport infrastructure development in the EU'. (Tízmilliárdos beruházás indul. ISPA-pénzből épül a csatornahálózat. Petőfi Népe, 2003 63(253): 5)

While Ballószög remained embedded within the urban sphere, the municipality simultaneously pursued a development model centred on strengthening local capacities. The establishment of tourism and wellness infrastructure – most notably the Aranykor Thermal Bath and Retirement Home – reflected a deliberate strategy to diversify the village's functions and enhance its appeal beyond a commuter role:

'Tourism in Ballószög may experience significant growth due to the newly built Aranykor Wellness Thermal Bath located on the outskirts of the village. This investment, worth several hundred million forints, was completed in December 2004 next to the Aranykor Home for the Elderly. The facility is not only available to the residents of the home but is also open to the general public.' (Jelentősen nőhet Ballószög turisztikai vonzereje -Termálfürdő a község szélén. Petőfi Népe, 2005, 60(7): 11)

Local leaders explicitly articulated this multi-pillar development vision. Mayor Imre Katona emphasised a management-oriented approach to governance, grounded in multiple development pillars including infrastructure expansion, demographic renewal, and institutional growth:

'In 2002, when I became mayor, the first thing I did was to apply the managerial approach that had proven highly effective in my previous entrepreneurial work to the everyday functioning of Ballószög. I believe it is important that a settle-

ment's development should be based on multiple pillars. [...] The first was urban development: we designated plots for both residential and industrial purposes. This led to the influx of young families and a sharp increase in the number of children.' (Hitelük nincs, sikerük igen – új lakóparkot alakítanak ki a községben. Petőfi Népe, 2008, 63(225): 14)

In line with this vision, investments increasingly targeted education, childcare, and cultural services in order to support long-term population retention and reinforce community cohesion. The preservation of local identity became a central element of the development strategy, as traditional festivals and cultural events were mobilised to reinterpret and sustain a distinct village character:

'Ballószög sees itself as a town, but it does not wish to forget its rural traditions – especially not the celebration of grapes and wine. Yet tradition is such that, if not carefully preserved, it wears away and is buried by oblivion.' (Akik megérintették a falu lelkét – 'Sok ilyen fesztivált szeretnék, mert öröm volt látni a legutóbbit.' Petőfi Népe, 2009, 64(239): 15)

While identity-building strengthened the village's symbolic autonomy, institutional collaboration articulated its regional dimension by linking local cohesion to collective capacity-building across the Sand Ridge settlements. In this context, Ballószög also sought to reposition itself institutionally through regional alliances. Its participation in the formation of the Central Sand Ridge Association (KÖHOSZ) exemplified a bottom-up strategy of regional embeddedness, whereby municipalities acted collectively to enhance bargaining power and development opportunities.

In sum, the period between 2001 and 2012 represented a pivotal stage in Ballószög's transformation – from a structurally dependent periphery to a semi-autonomous, regionally embedded actor. Although asymmetries in power and resources persisted, the village increasingly defined its role through agency, partnership-building, and identity formation. Rather than signalling the simple erosion of dependency, this era was characterised by its strategic rearticulation through the integration of local capacities, regional coordination, and identity-based place-making.

Summary

The analysis of press articles published between 1954 and 2012 shows that the relationship between Ballószög and Kecskemét is not a static structure but a dynamic construct shaped by changing historical contexts. Since attaining formal administrative independence in the 1950s, this relationship has undergone a gradual transformation – from functional subordination, through the uncertain realignments of the post-socialist period, towards a more integrative and partnership-oriented regional configuration by the early 21st century. Each historical phase is characterised by shifts in both the nature and content of the relationship: early administrative and service-related dependencies were progressively complemented by economic, social, and developmental dimensions. The analysis confirms that Ballószög's development has been significantly influenced by resources derived from its proximity to Kecskemét, while the village has continually sought to renegotiate its identity and autonomy within an asymmetrical yet evolving interdependence (Table 2).

Table 2: Relational periods between Ballószög and Kecskemét based on press discourse analysis

Period	Nature of relationship	Type of connection	Short comment
1954–1960	Partial independence, administrative separation, increasing functional subordination	Administrative, cultural and educational	Formal independence with remaining and emerging dependencies
1961–1979	Functional dependence, subordination in public services and education	Economic, educational, healthcare and transport-related	Stabilising, but functionally one-sided relationship
1980–1989	Asymmetric, city-centred relationship with expanding residential function	Suburbanisation, housing, labour market, 'garden city'	Urban outmigration area, yet in a subordinated role
1990–2000	Multi-layered, transitional relations: market exposure, identity-seeking, new political space	Social, political, administrative, survival economy	New opportunities, but continued dependencies and uncertainties
2001–2012	Cooperative, structured regional embeddedness, integration into urban spatial structure	Regional development, infrastructure, agglomeration-related	Partnership seeking mutual benefits in the peri-urban zone

Source: Author's own analysis

Ultimately, the case of Ballószög demonstrates that post-socialist peri-urban development cannot be adequately explained through static models of dependency. Instead, it must be understood through historically contingent and discursively constructed relationships in which local agency and identity play constitutive roles.

Conclusion: A Developmental Model of the Ballószög-Kecskemét Relationship Based on Press Analysis

The relationship between Ballószög and Kecskemét can be analysed not only as a temporally segmented historical process, but also through a theoretical lens that highlights deeper transformations in inter-settlement relations. Based on the historical content analysis, a three-phase developmental trajectory can be identified that models qualitative shifts in the nature of this relationship: a progression from subordinated dependency, through a phase of transitional duality, to an integrated partnership (Figure 4).

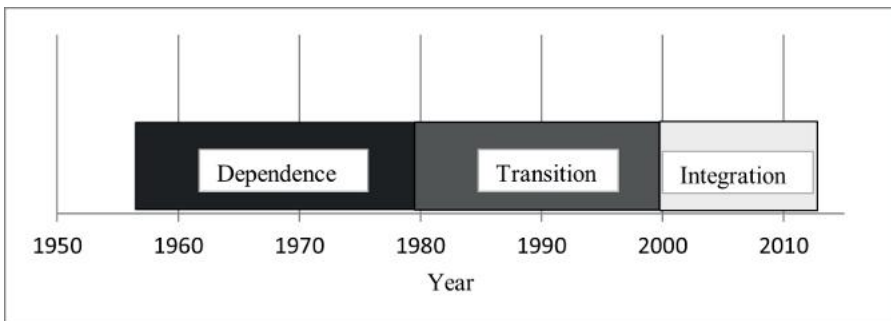


Figure 4: Developmental model of the Ballószög-Kecskemét relationship

Source: Author's own analysis

In the dependency phase (1954–1979), Ballószög's relationship with Kecskemét was characterised by strong administrative and functional subordination. Although formal local autonomy had been achieved, institutional, public service, and economic relations remained asymmetrically dependent. The urban centre functioned not only as an administrative hub but also as the

primary provider of public services, labour market opportunities, and ideological guidance.

During the transitional phase (1980–2000) – particularly in the late socialist period and the years surrounding the regime change – Ballószög's position became increasingly ambiguous and contradictory. Early signs of suburbanization emerged, residential functions were strengthened, and the village became a destination for urban out-migration. At the same time, political decentralization after 1989 created new forms of local agency; however, these were accompanied by economic vulnerability, informal survival strategies, and an ongoing search for identity. As a result, a duality developed: Ballószög functioned simultaneously as a marginalised zone and as a site of alternative spatial practices.

In the integration phase (2001–2012), the village was functionally incorporated into Kecskemét's spatial structure and gradually became an active participant in regional cooperation. The relationship was no longer defined solely by hierarchical or imposed dependencies but increasingly took the form of partnerships in project development, infrastructure planning, and institutional collaboration. New spatial logics – such as suburbanization, agglomeration, and regional coordination – enabled Ballószög to emerge as a cooperative actor within the city-centred spatial structure.

This three-phase model not only summarises the historical trajectory of the relationship but also serves as a theoretical abstraction that directly supports the paper's central hypothesis: that the development of peri-urban settlements in post-socialist contexts unfolds through relational transformations rather than linear modernization. The model demonstrates that the Ballószög-Kecskemét relationship did not evolve through a single event but through gradual, layered transformations from dependency toward integration. While the boundaries between phases are not rigid, they mark key turning points and qualitative shifts that continuously redefined local and regional power relations. Beyond historical periodization, an additional analytical dimension becomes visible – the evolving quality of the relationship itself, which deepened over time (Figure 5). The model thus highlights that the transformation of this connection involved not only temporal change but also structural evolution, moving from subordinate dependency toward partnership-based cooperation.

The combined use of historical and relational theoretical frameworks thus reinforces the study's broader contribution to post-socialist urban geography. It demonstrates that local agency, discursive identity construction, and institutional negotiation play constitutive roles in reshaping spatial hierarchies. In particular, the Ballószög-Kecskemét case confirms that spatial embeddedness should be understood as historically contingent and discursively reproduced, echoing the perspectives of Lefebvre (1991), Massey (1994), Paa-si (2002), and Woods (2007).

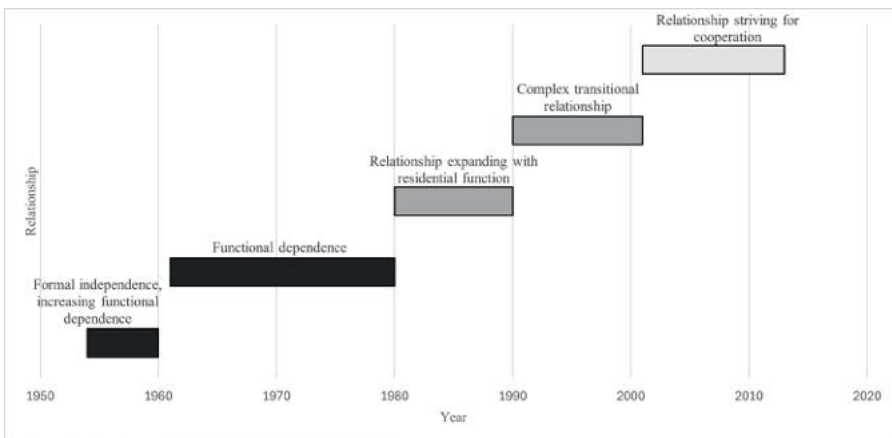


Figure 5: Qualitative changes in the relationship between Ballószög and Kecskemét

Source: Author's own analysis

Overall, this study demonstrates that the relationship between Ballószög and Kecskemét was neither constant nor unambiguously defined. Instead, it underwent multiple transformations over the decades, alternating between phases of closer integration and more distanced interaction. The discourses emerging from historical press materials reflect this fluctuating dynamic, while also indicating that Ballószög's local identity has consistently been shaped within this relational framework. Proximity, dependence, the pursuit of autonomy, and various forms of connectivity collectively influenced the village's developmental trajectory. Empirically, the findings confirm the initial hypothesis that Ballószög's development was primarily driven by its geo-

graphical and institutional proximity to Kecskemét. However, this proximity did not constitute a fixed dependency; rather, it functioned as a relational condition that enabled shifting configurations of subordination, negotiation, and cooperation.

Through the lens of historical press analysis, this research provides insights not only into the past of a single locality but also into the broader variability of spatial relationships. While grounded in the case of Ballószög, this approach may also be applicable to urban-rural or core-periphery relations in other post-socialist contexts, where similar processes have unfolded – often with varying intensity, but along comparable structural lines.

Theoretically, the study contributes to ongoing debates in post-socialist geography and rural sociology by refining relational and poststructuralist approaches to spatial change. It demonstrates that the development of peri-urban settlements in post-socialist contexts cannot be adequately explained through static centre-periphery models or formal administrative classifications alone. The case of Ballószög highlights that spatial embeddedness is relational, historically contingent, and discursively constructed, thereby confirming key insights from poststructuralist geographical theory.

Moreover, the proposed three-phase model – dependency, duality, and integration – offers a conceptual framework for interpreting the layered and often contradictory nature of suburbanisation in post-socialist settings, where formal autonomy may coexist with deep and persistent functional ties.

Finally, developments since 2012 further reinforce the study's conclusions. Both population numbers and the housing stock in Ballószög have continued to grow steadily, while new infrastructural and service developments have strengthened its position as a dynamically embedded peri-urban settlement within the Kecskemét region. These trends suggest that the partnership-based and regionally coordinated development model identified in this study remains viable and resilient over the long term, underscoring the enduring explanatory value of relational perspectives in understanding post-socialist regional change.

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The Countryside as a Space of Double Peripherality for Youth from Central and Eastern Europe

Abstract

Rural youth in Central and Eastern Europe (CEE) experience double (or multiple) peripherality. This phenomenon arises from the unique position of CEE countries in the European Union, the shared trajectory of their transformation – which disproportionately burdens vulnerable or previously marginalised groups – and the neglect of rural youth in development planning, including agricultural, rural development, and youth policies. This study explores the extent to which rural youth perceive and experience their own peripherality, how this perception influences their career aspirations, the role of schools and the quality of education in this context, their attachment to local communities, and the freedoms associated with EU membership. These questions were investigated through two international research projects, culminating in publications that address these themes.

Keywords: rural youth, transition countries, looping effects of peripheralisation

The concepts of peripherality and double peripherality have been integral to sociology since the 1970s, largely due to the theories of Immanuel Wallerstein. In his analysis of capitalism's history, Wallerstein noted that this economic system evolves at varying rates across different regions, resulting in

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significant inequalities. In the capitalist core, capital accumulates and enterprises that are both capital-intensive and innovative thrive. A strong state is established in these areas, allowing society to benefit broadly from economic growth. Conversely, the periphery primarily supplies the core with simple, unprocessed goods that require intensive labour rather than capital and innovation. This economic dependency limits the periphery's ability to negotiate favourable terms of exchange. Between these two extremes, intermediate areas emerge, exhibiting characteristics of both the core and the periphery. Wallerstein posits that peripheries can simultaneously depend on two competing core centres, thus introducing the concept of 'double peripherality'.

The authors of the book 'EU Citizenship Beyond Urban Centres: Perceptions and Practices of Young People in East Central European Peripheral Areas'¹ draw on Wallerstein's concept of double peripherality in their analysis of rural areas in Central and Eastern Europe. They argue that peripherality can be understood more broadly than Wallerstein initially suggested, encompassing not only geographical aspects (as Central European countries are situated in the geographic centre of Europe), but also developmental conditions, political representation, and the lack thereof. In this context, peripherality is a multidimensional phenomenon, reflecting both the external peripherality of Central and Eastern Europe within the European Union², and, on the other, 'internal peripherality', which manifests in varying rates and scopes of development within countries or the region as a whole. The authors identify developmental disparities, characterised by poorer economic conditions (such as GDP, income level, unemployment rates) and, more broadly, inferior material and non-material living conditions for the inhabitants.

From this perspective, the Central European countryside is 'doubly peripheral' because it differs from cities, particularly large urban centres, in

¹ Lorenz A. and Lisa H. Anders (eds.) (2023). *EU Citizenship Beyond Urban Centres. Perceptions and Practices of Young People in East Central European Peripheral Areas*, Ed. Springer, access: <https://link.springer.com/book/10.1007/978-3-031-29793-9>

² The continuing disparity in the positions of member states in this part of Europe is reflected, among other things, in the fact that only a few key positions in the European Union are held by people from Central and Eastern European countries, as well as in the relatively weak democratic mandate of representatives from these countries, due to low turnout in European Parliament elections in our region.

terms of living conditions and the pace of local development. Various aspects of exclusion intersect here, further intensifying processes of marginalisation, including political exclusion. This leads to consequences that Ian Hacking calls ‘looping effects’.³ According to him, overlapping marginalisation processes in various spheres elicit two types of reactions: individuals labelled as peripheral or marginal either adapt to this label by adopting the behavioural patterns expected of socially and politically excluded groups, becoming withdrawn and apathetic, or they reject such a label, often by excluding themselves or migrating from the area that has imposed this burden. Migration is selective in nature (brain drain), which triggers a slippery slope – growing demographic challenges diminish the prospects for infrastructure development and lead to a further decline in the quality of life.

The authors of the aforementioned work focus on rural youth from Central and Eastern Europe, who are victims not merely of double, but of multiple peripherality, as they find themselves on the margins of margins – that is, on the fringes of doubly peripheral communities. The initial question for the research team, whose members authored the book, was to what extent the double peripherality of rural areas and rural youth from Central and Eastern Europe might influence their perception of the European Union and their own rights and freedoms within it. The study also aimed to provide recommendations for decision-makers at local, regional, national, and European levels on how to prevent rural youth from this part of Europe from succumbing to peripherality. The underlying assumption was that the lack of civic engagement among young people, stemming from experiences of marginalisation, will have lasting consequences for the quality of democracy and the functioning of the European Union.

The study included young people from Poland, the Czech Republic, Slovakia, Hungary, and Romania. Four focus group interviews were conducted in

³ Hacking, Ian. 1995. The looping effects of human kinds. In *Causal Cognition: A Multidisciplinary Debate*, ed. Dan Sperber, David Premack, and Ann James Premack, 351–394. Oxford University: Oxford University Press, from: Rebecca Pates, *Peripheral Futurities. Emigration Plans and Sense of Belonging among East Central European Youth*, in: Astrid Lorenz and Lisa H. Anders (eds.), *EU Citizenship Beyond Urban Centers. Perceptions and Practices of Young People in East Central European Peripheral Areas*, Ed. Springer, Cham 2023, p. 25.

each country, supplemented by a small quantitative survey of the interviewees' school peers. The study focused on young people aged 16-17, and the interviews were conducted in communities with populations of 20,000–30,000 (small towns). These towns were selected because small towns offer upper secondary education (usually vocational), which is widely accessed by rural youth. Additionally, the study included six leaders of youth-focused projects initiated and financed by the EU. The research examined, among other aspects, what peripherality means for rural youth; how they perceive their citizenship in the European Union from the perspective of double peripherality; what the European Union and the rights of EU citizens signify to them; their views on the European Parliament elections; and how perceptions and practices related to European Union membership differ between countries.

This book summarising the research consists of three parts: a report on the youth research findings, a report on the study of organisations that activate and create opportunities for youth, and recommendations divided into those pertaining to regional, national, and European levels. The authors provide a detailed report and analysis of the youth research data, presented separately for each country studied. Here, we will summarise the findings in general terms.

Regardless of their country of origin, young people express significant dissatisfaction with their local environment. In all five countries examined, respondents highlighted a lack of educational, professional, and employment opportunities, inadequate public transportation, and often a scarcity of recreational facilities and leisure activities. This situation compels them to emigrate in search of better education and well-paid work. Whether planning permanent migration from rural areas (domestic or international), the respondents struggle to accept the living conditions available in these regions.

Moreover, many of them experience considerable uncertainty. For those wishing to emigrate, this uncertainty is tied to fears about whether such a move will enable them to achieve their aspirations and whether they will possess sufficient resources – social, material, and mental – to advocate for a change in their circumstances, given their awareness of the disadvantaged position from which they are starting. This group also strongly stigmatises those who refuse to migrate from the countryside: 'they are people with no future, stuck in the swamp' (as one respondent puts it) – all the more reason for their fear of potential failure. For those who decide to stay (or must re-

main), the dominant emotion is also fear of an uncertain future and a sense of abandonment.

Young people attribute the challenges faced in rural areas and the uncertainty about the future to the authorities of their respective countries and local decision-makers. The authors suggest that this may indicate a lack of explicit scepticism towards the European Union. However, the study reveals that the youth surveyed possess limited knowledge of the European Union and the rights and freedoms afforded to its citizens. They rarely receive information about EU initiatives aimed at including this demographic socially and politically. This gap stems from project-oriented activities – generally intended for a specific, relatively short duration – and the lack of organisational and financial stability of the entities responsible for these projects in EU countries. The authors argue that the potential for active European citizenship among young people in the dual peripheries of Central and Eastern Europe is currently underutilised. This is attributed to a lack of understanding of the EU itself and the ambiguity surrounding the concept of EU citizenship. They propose that giving it a ‘rooted and real’ character, alongside simultaneous educational and informational initiatives, could unlock this potential for active citizenship.

Given both the attitudes of young people presented in the book and the broader political processes occurring in Central and Eastern European countries, hopes for active citizenship within the European Union appear both premature and unfounded. The 2022 International Civic and Citizenship Education Study (ICCS)⁴ shows that young people in Central and Eastern Europe identify as European and take pride in living in Europe to a similar extent as their peers elsewhere in Europe. Young people from this region exhibit greater enthusiasm for their country’s membership in the European Union. However, this enthusiasm does not necessarily translate into a robust sense of identity; in Poland, Romania, Slovakia, Latvia, and Lithuania, young people are less likely than their counterparts in other countries to see themselves as citizens of Europe, and even less likely to perceive themselves as citizens of the world (the average for Europe is 78%; for these countries, the agreement with this statement is 73%, 72%, 71%, 73%, and 79%, respectively). This finding sup-

⁴ Wasielewska O. (ed.) (2023). *Młodzi w demokracji. Wyniki Międzynarodowego Badania Kompetencji Obywatelskich ICCS 2022* [Youth in democracy. Results of the International Civic Competences Survey ICCS], IBE Publishing House.

ports the authors' thesis that young people from Central and Eastern Europe are not particularly sceptical of Europe itself. The research presented in the book does not adequately address the fact that young people feel alienated by it. Despite their support for democracy as a political system, young people emphasise that their democratically elected representatives not only fail to represent their interests effectively but also do not meet their expectations, despite wielding excessive power compared to others. Young people from the 'new' member states are clearly more critical than their Western peers.

Around the same time, rural youth became the focus of interest for another research team, whose work culminated in the book *'Rural Youth at the Crossroads'*.⁵ Here, as in the first, the authors examine the challenges faced by rural youth from several Central and Eastern European countries, including Serbia, Croatia, the Czech Republic, Hungary, Romania, and Russia. They also incorporate a historical dimension, which serves as an important element in differentiating the countries within the region. The authors note that although these countries are situated in Central and Eastern Europe, they have followed different paths of systemic transformation, which have progressed at varying paces. What unites them – regardless of their transformation paths – is a shared legacy of the political and economic peripheralisation of rural areas during the socialist period. This process has been exacerbated by the transformation and subsequent integration into the European Union. Acknowledging the region's internal diversity, the authors highlight the commonalities among them. They particularly emphasise that it is the most socially vulnerable who bear the brunt of the costs associated with transformation. Rural areas have been disproportionately affected by selective migration, loss of human capital, ageing populations, and the economic challenges posed by deindustrialisation, agricultural recession, and global economic integration. This combination of factors is generating new uncertainties in the rural landscapes of Central and Eastern Europe.

In both projects, researchers concentrated on rural youth. One reason for this focus is the already described dramatic socioeconomic situation and future prospects of this demographic. Another reason is that this group is often overlooked as a target for political action – youth problems are rarely consid-

⁵ Schafft, K. A., Stanić, S., & Horvatek, R. (2020). *Rural Youth at the Crossroads*. Taylor & Francis.

ered in agricultural policy and only marginally in rural development policy. Conversely, where youth policies are developed (for example, those related to their entry into the labour market), young people are treated as a monolithic group, with the specificity of rural areas largely disregarded.

As the authors argue, in post-socialist societies, the common denominator of the transition to adulthood is the erosion of relatively structured and predictable career paths. Youth socialisation takes place in an environment where the institutions, processes, and social norms that previously guided the transition to adulthood have either disappeared or are undergoing significant transformation. In rural areas, declining perceptions of quality of life, coupled with uncertainty regarding personal development paths and aspirations, as well as the lack of opportunities for their realisation, inevitably lead to increasing frustration among young people. This frustration is not alleviated by the openness of borders, prospects for mobility, and opportunities that, from their perspective, often seem unattainable. Such conditions create fertile ground for far-right nationalism and xenophobia, as well as anti-democratic tendencies – although this thesis is contested by the findings of Renata Horvatek (Chapter 4), who emphasises the diversity of political attitudes among rural youth. According to the authors of the discussed work, a remedy for these implications for democratisation and open societies is to foster a sense of prosperity and well-being among rural youth. Youth migration from rural areas is identified as a key determinant of future demographic changes in these regions and is likely to exacerbate issues related to social and economic development. Consequently, the research team focused not only on assessing the extent to which young people feel connected to their schools and communities but also on identifying actions that should be taken to enhance this connection and, ultimately, their sense of well-being, thereby reducing the risk of youth migration from rural areas.

Researchers examining the plans and aspirations of rural youth in Croatia (Sanja Stanić, Kai A. Schafft, Sanja Klempić Bogadi, and Sonja Podgorelec) highlight, on the one hand, the disparities within the country – specifically, the differing conditions in coastal and island regions, which largely depend on seasonal tourism, compared to those in the interior. On the other hand, they address the issue of gender differences in migration processes, a problem often overlooked in rural development policies, noting that young women are more likely to formulate migration plans. Furthermore, rural youth

express a willingness to migrate despite their strong ties to the local community, although this inclination is linked to the socio-economic characteristics of their respective communities. Objective socio-economic conditions, such as access to education, permanent employment, and the level of public transport, appear to be more significant than sentiment; however, this conclusion is not explicitly drawn in the study.

Similar findings apply to Czech youth, where rural youth perceive their life chances differently based on their place of residence – young people from border areas have different aspirations than those from the Prague metropolitan area. Czech researchers (Dominik Dvořák, Silvie R. Kučerová, Jaroslava Simonová, Petr Meyer, Zdeněk Kučera, and Jan Šmíd) provide additional insights into the situation of rural youth, emphasising that youth aspirations are influenced by both the broader social environment in which they grow up and the quality and type of education available. They point out that the organisation of the secondary education system makes vocational and technical education more accessible to rural youth, which limits their chances of pursuing higher education. Ultimately, the type of education received significantly influences the assessment of their life opportunities. Russian researchers (Dominik Dvořák, Silvie R. Kučerová, Jaroslava Simonová, Petr Meyer, Zdeněk Kučera, and Jan Šmíd) have reached similar conclusions, noting that the quality of education available to young people shapes their life choices. They highlight a paradox: while offering higher-quality education can enhance quality of life – potentially anchoring young people more firmly in their local communities – more effective educational practices also make opportunities outside rural areas more accessible, which may result in a greater outflow of young people. These aspirations, dependent on educational effectiveness, ultimately influence not only their transition to adulthood but also the future of rural areas. Similar conclusions emerge from research conducted in Serbia (Dušan Mojić, Irena Petrović, and Vera Backović).

Research by Hungarian (Tibor Farkas, Emese Bruder, Dóra Kolta, and Ilona Gerencsér) and Romanian (Tibor Farkas, Emese Bruder, Dóra Kolta, and Ilona Gerencsér) scholars corroborates the findings regarding the significant role of schools in shaping youth aspirations, as well as in fostering a sense of empowerment and assessing the likelihood of achieving their goals. Both studies examined Roma youth and how educational institutions may contribute to the perpetuation of social exclusion.

An intriguing addition to the volume is the text by a Vietnamese researcher Chi Nguyen, who presents the case of a village that, through administrative decision, became part of Hanoi. This change exacerbated feelings of marginalisation and inequality between Hanoi's old and new residents, while simultaneously reinforcing the educational system through reduced school autonomy. This, coupled with underfunding, deepened the gap between urban and rural youth. As in Central and Eastern European countries, schools profoundly influence the shaping of young people's life plans and assessments of their potential for full social inclusion.

The research results presented here were collected – unlike the first project described – using a variety of sources, including both primary (individual interviews, group interviews, questionnaire surveys, case studies) and secondary (statistical data, published research findings). Despite the diverse research methods and approaches, a relatively comparable picture of rural youth across the studied countries has emerged.

Both research teams confirm that rural youth – though diverse and not monolithic within their countries – constitute a community that is not only marginalised but also aware of its marginal position. Their coping mechanisms and perceptions of opportunities to reduce this marginalisation within their local communities, given the lack of systemic solutions that fail to address the specific needs of this group in youth and rural development policies, are influenced by the often limited socio-cultural resources of their families and the quality of education provided by rural schools. The cited works do not offer recommendations on how this latter fact can inform political or strategic solutions. Nevertheless, given the limited empirical evidence illustrating the challenges faced by rural youth in Central and Eastern Europe, it is essential to consider both of these works to understand the issue of the repeated peripheralisation of rural youth and the importance of initiatives aimed at fostering greater social cohesion, as well as the democratisation and openness of societies.

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From Tradition to Innovation: Rurality in the Discourse of the 19th Polish Sociological Congress

The 19th Polish Sociological Congress of the Polish Sociological Association took place in Białystok from 16 to 19 September 2025. The event focused on contemporary crises and social transformations. The programme included more than one hundred thematic groups, many of which directly or indirectly addressed the countryside and rural areas. Although there was no section explicitly dedicated to agriculture, the theme of rurality permeated numerous presentations centred on economic, social, and cultural transformations. An analysis of the papers presented allows us to conclude that contemporary sociological discourse no longer conceptualises the rural in terms of “tradition” or “peripherality,” but rather as a *laboratory of social change*.

Of particular note was the thematic group entitled “*Ruralities in Transition: Environment, Places, People*,” organised by Katarzyna Zajda, Sylwia Urbańska, Ilona Matysiak, and Wojciech Goszczyński. This group aimed to integrate diverse academic and research environments engaged in studies on broadly understood rurality. The organisers and participants sought to address new local and trans-local phenomena and processes. It was assumed that contemporary social challenges – such as climate change, demographic shifts, cultural trans-

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formations, economic processes, and gender relations – leave a profound imprint on the trajectories of rural transformation. Consequently, an important research challenge lies in examining how rural communities adapt to, transform within, or seek to protect themselves from these dynamics.

The first speaker, Wojciech Kniec, presented a paper titled “*Farming 5.0: Towards Agriculture without Farmers?*” He observed that the contemporary agricultural sector demonstrates a remarkably rapid adoption of intelligent technologies, largely due to their tangible advantages over analogue systems. These advantages include, above all, the ability to process significantly larger data sets and transmit them instantaneously between agricultural devices and machinery. This has a direct and substantial impact on optimising production costs and reducing environmental expenses. In this context, Kniec discussed the concept of the *paradox of sustainable intensification* in agricultural production. Precision farming refers to a form of agriculture in which digital technologies are extensively used to monitor and optimise production processes. Smart farming encompasses all the features of precision agriculture while extending them through the Internet of Things (IoT), the introduction of robotics and drones, as well as artificial intelligence. According to Kniec, this should be understood not only as augmenting human capabilities with machines’ analytical power but also as enabling machines to interact with people through Artificial Super Intelligence (ASI). It is conceivable that “invisible agriculture” may soon dominate the countryside – large, autonomous farms detached from the authority and needs of local communities. What may arrive even sooner, Kniec argues, is the erosion of the farmer’s work ethos as production becomes decoupled from nature, along with a weakening of the emotional relationship to land and animals. Another challenge will be the externalisation of knowledge and power within the agricultural economy – the rule of algorithms. Techno-Luddite critiques are also emerging: contemporary technological solutions, it is argued, threaten humanity, destroy local communities, and create risks associated with the uncontrolled influence of machines on food production. In certain domains, technological progress, some contend, should be deliberately slowed. The author also called for Polish and European rural sociologists to pay much closer attention to the impact of Economy 5.0 on the development of agriculture.

The second paper, by Ruta Śpiewak and Elwira Wilczyńska, was titled “*Polish Women Farmers – Between Conservatism and an Unarticulated Emancipa-*

tion.” The authors argue that Polish agriculture remains male-dominated and continues to be strongly shaped by traditional patriarchal cultural structures. The transformations observed – such as the rising share of women farm owners – have not been accompanied by corresponding shifts in deeply rooted beliefs about gender roles. The presentation outlined the structural and cultural barriers to women’s empowerment in Polish agriculture and identified the main systemic challenges faced by women farmers. These were discerned through a two-stage study: at the meso level, in-depth interviews with female experts connected to the agricultural sector, and at the micro level, in-depth interviews with women farmers from selected voivodeships.

The methodological framework rested on Feminist Agrifood Systems Theory (FAST), which integrates several theoretical strands and encompasses diverse spheres of women farmers’ activity, including agricultural identities, structural and cultural barriers, and women’s innovativeness in sustainable agriculture. The changes observed in recent years have been emancipatory in character and highly dynamic; however, prevailing cultural conditions mean that traditional constraints continue to hinder women in Poland. In most Polish family farms, a traditional division of labour still prevails, making it difficult for women to engage fully in professional work. As a result, they find it harder to pursue farming as an occupation and – once they do – harder to become active in farmers’ organisations.

Women in the Polish agriculture identify as farmers, take pride in their occupation, and view it as a form of economic activity or business. Wives of farmers who are not farm owners and/or do not work in the fields but provide administrative and accounting support for the farm likewise identify with agriculture. Women farmers report few difficulties in accessing the key resources needed to run an agricultural enterprise. Nonetheless, certain barriers persist that stem from traditional understandings of gender roles – for instance, favouring boys as the “natural” successors or denying women competence in operating agricultural machinery. These issues, however, remain largely invisible to the interviewees. Even when barriers to resource access are recognised, respondents do not interpret them in terms of discrimination.

The next presentation, delivered by Marta Gospodarczyk, titled “*Without Water You Can Do Nothing: Coping Strategies of Family Farms in Poland in the Face of Drought*,” addressed the growing problem of droughts in Poland, which are becoming increasingly frequent and prolonged. According to the

author, drought is a multidimensional phenomenon that poses significant definitional challenges. Gospodarczyk's presentation focused on agricultural drought as a contextual factor shaping the labour strategies and coping mechanisms adopted by family farms in Poland. Drawing on the tradition of feminist economic anthropology, the study aimed to situate agricultural labour within a broader socio-cultural framework, offering a *detailed description* of coping strategies and the decision-making processes underlying them, with particular attention to their gendered character.

Family farms were conceptualised as complex analytical units whose members do not necessarily share the same interests and aspirations. The author posited that gender acts as a structuring factor within each family farm's hierarchy, manifested in women's positions within decision-making processes and their influence on strategic choices, as well as in the gendered division of labour. Gospodarczyk argued that the embedding of Polish agriculture in the global market economy creates a situation in which both the experience of drought and the strategies adopted to cope with it align with the logic of capitalist production and the pursuit of income maximisation. However, these economic imperatives coexist with emotions such as anger, disappointment, and sadness, arising from a sense of loss of control over natural forces.

Thus, coping strategies and decision-making processes combine economic rationality (profit maximisation) with emotional responses and an awareness of human limitations vis-à-vis nature. These processes are shaped not only by global market conditions and European and national regulations but also by the specific structure of the local economy. Gender, in turn, influences household members' positions in the negotiations that underpin decision-making and strategy formulation.

The paper presented by Halina Rusek, titled "*Women in Rural Families – Continuity or Transformation of Roles and Life Patterns?*" sought to answer, among other questions, what kinds of relationships currently prevail within families – particularly rural ones – in the first decades of the twenty-first century. The researcher argued that women living in rural areas have not been a frequent subject of empirical study in recent years and that existing research on rural women tends to be narrow, specialised, and event-focused, preventing an adequate representation of the broader socio-cultural context of their lives. As a result, the contemporary image of rural women appears fragmented and full of contrasts.

In this context, Rusek posed a series of questions that merit further empirical investigation: What roles do rural women currently play in marriage and family life, particularly regarding the nature of marital relations – patriarchal or partnership-based? Does the common belief in the persistence of a traditional division of roles find confirmation in the actual lives of rural families? How do rural women describe and evaluate relationships within their own marriages and those of their parents? To what extent can one speak of the continuity of life patterns? Finally, what image of the rural woman emerges in light of ongoing transformations in the roles, structure, and functions of contemporary Polish rural society?

The presentation delivered by Małgorzata Dziekanowska, titled *“Between Tradition and Innovation: Life Strategies of Women in Peripheral Areas amid the Transformation of Rurality,”* addressed the issue of life strategies among women living in peripheral regions in the context of transformations of contemporary rurality and changing socio-cultural conditions. The main objective of the paper was to examine how spatial location, social structure, and access to resources shape women’s opportunities for action and their modes of adaptation to a dynamically changing reality. The theoretical framework of the analysis was based on Pierre Bourdieu’s concepts of capital and habitus, which made it possible to capture the relationship between social structure, individual life strategies, and internalised patterns of behaviour. The analysis also took into account the variability of women’s life stages, emphasising the differing pressures, opportunities, and constraints that emerge at various points in the life course.

Particular attention was devoted to the relationship between entrenched norms of traditional rural culture – especially the patriarchal family model – and women’s emerging aspirations for autonomy, self-realisation, and socio-professional engagement.

In the second part of the session, five papers were presented. The first, delivered by Karol Korczyński and titled *“Relational Practices and the Formation of Bonds on the Periphery in the Context of Counterurbanization in Post-Pandemic Poland,”* addressed the phenomenon of counterurbanisation, understood as migration from metropolitan areas to peripheral regions. According to the author, this process in Poland remains relatively limited in scale. However, both its significance and scholarly interest in it among European researchers have increased markedly in recent years, largely due to the spread

of remote work accelerated by the COVID-19 pandemic and the deepening housing crisis in major cities.

In forecasting the durability of counterurban migration and assessing its implications for the development of peripheral areas, it is essential to understand relational practices from a life course perspective – that is, to examine these practices across different levels of social reality and various spheres of everyday life, over time and across space.

The next presentation, by Krzysztof Gorlach and Anna Jastrzębic-Witkowska, titled “*Shaping Place through Folk Art: The Case of a Painted Village*,” analysed a rural community in which artistic heritage became a driver of social activity and participation in the development of a distinctive fragment of rural space. The tradition of decorating the walls of both residential and farm buildings emerged in the nineteenth century for practical reasons: at that time, many buildings lacked chimneys, leading to dark stains on their walls. Covering these stains with colourful patterns served to improve their appearance. Later, as such primitive structures disappeared, wall painting continued for purely aesthetic purposes and eventually attracted the attention of external observers. This practice, maintained by a few families and passed down from generation to generation, turned some of its practitioners into informal community leaders, gradually transforming the locality into what became known as the “Painted Village.” Building upon this image, the community was able to generate social capital that, for example, enabled it to introduce electrification ten years earlier than neighbouring villages after the Second World War. The painting of building walls became widely recognised by external actors and entered broader discourses concerning the community’s identity, history, and development paths. Over time, the village evolved into a tourist attraction, hosting agritourism farms, local handicraft workshops, and a cultural centre. The story of the “Painted Village” thus serves as an example of community development based on bottom-up social activism and the creative use of traditional motifs of local folk art.

The following paper, presented by Konrad Burdyka and titled “*Ethos-Based Organizations in the Polish Countryside: Values as a Silenced Foundation of Local Community Resilience*,” focused on rural non-governmental organisations (NGOs) characterised by a strong ethos and identified them as particularly resilient actors within the third sector in the face of externally induced crises. The author’s point of departure was the assumption that values

rooted in the past – understood as a specific way of life reflecting the concept of *ethos* as described by Maria Ossowska – constitute the foundation of the durability and social impact of rural communities.

Burdyka observed that “building resilience” has become a flagship slogan and policy direction for supporting local communities and NGOs in Poland. However, systemic measures (such as government grant programmes) tend to neglect the sphere of values – long recognised in classical theories of resilience as the basis of social capital that enables communities to overcome crises. Public policies focus primarily on quickly implemented interventions, such as equipment purchases or skills development. Yet the most numerous types of rural NGOs often ground their activities in a clearly defined *ethos* – a generationally transmitted pattern of social behaviour closely linked to a hierarchy of values.

Although these *ethos* are subject to modernising pressures – and in many organisations no longer serve as a core source of motivation or meaning – there remain opportunities for their preservation and reinforcement to the benefit of society as a whole. Based on field observations of the most active organisations (such as Volunteer Fire Brigades, Rural Women’s Circles, and Local Sports Associations), the author identified several key practices that help maintain this *ethos*:

- Formalisation of *ethos* – Drafting documents that define behavioural frameworks and serve as reference points in crisis or conflict situations;
- Socialisation and ritual practices – Engaging in regular collective activities, group rituals, and ceremonies, and commemorating real individuals as carriers of *ethos* (e.g. founders and community leaders);
- Identity narratives – Cultivating symbols, personal histories, memory rooms, and community chronicles.

According to Burdyka, it remains an open question whether such practices are widespread and replicable. In other words, do *ethos* continue to be recognised and valued as essential resources for rural NGOs, or are they increasingly giving way to the marketisation of activities and the ambivalence of increasingly diverse and interest-driven membership structures?

The next paper, presented by Jowita Bartczak and titled “*Institutional and Non-Institutional Support for Elderly People in Rural Areas: The Case of the Prostki Municipality*,” outlined the main findings of a research project of the

same title. The primary aim of the study was to identify and analyse the institutional and non-institutional support systems available to elderly people (aged 65 and over) in rural areas. The research was conducted in the rural municipality of Prostki, located in the Warmian-Masurian Voivodeship, during the summer of 2024. As part of the project, in-depth interviews were conducted with two categories of respondents: representatives of local government institutions and organisations, and elderly residents of the municipality (aged 65 and over). The carefully selected sample allowed for a reliable assessment of the challenges faced by older people living in rural areas and helped determine which institutions meet the needs of elderly residents – and to what extent. The study also explored the situation of older rural inhabitants during the COVID-19 pandemic, as well as the forms of support directed towards them during that difficult period.

Compared to urban areas, rural regions remain particularly underdeveloped in terms of infrastructure designed to meet the needs of older adults. Long distances and the lack of frequent and regular transport connections with larger towns not only restrict access to basic services but also deepen social isolation and increase the risk of social exclusion. The main institutions providing support for the elderly in Prostki include local government offices, the Municipal Social Welfare Centre (GOPS), the Church/Caritas, the Cultural Centre, the public library, local healthcare facilities, the Association of Social Initiatives “Our Prostki,” and local Rural Women’s Circles (Koła Gospodyń Wiejskich). Interviews revealed that, despite the efforts of these institutions, many respondents considered the assistance they provide to be insufficient. Formal support was perceived largely as a supplement to the informal help offered by family members and neighbours, which remains the primary source of care and social support for elderly rural residents.

The following presentation, delivered by Michał Wenzel and titled “*Rural Social Movements in Poland*,” provided a concise analysis of the mobilisation of rural communities in contemporary Poland. The author drew upon his own conceptual framework of rural social movements, arguing that existing research on rural environments in Central and Eastern Europe lacks a clearly defined and consistently applied category of social movements that express the aspirations, interests, and values of populations economically tied to agriculture and culturally connected to the countryside. According to Wenzel, this conceptual ambiguity stems partly from the diversification of the rural

milieu, which has become a field of multiple forms of economic activity and a setting for various social groups. Therefore, it is essential to analytically distinguish between social movements rooted in pre-modern agrarian ideals and modes of action, and the urban-origin populations colonising rural spaces who introduce postmodern forms of mobilisation.

During the Congress, rural issues also appeared in other thematic groups. In one of them, Włodzimierz Durka presented a paper titled *“Risky Neighbourhoods: The Familiar and the Alien in the Social Space of the Village.”* The author discussed, among other topics, new conflicts emerging around space and its use. His presentation highlighted that immigrants in rural areas do not constitute a homogeneous category. In addition to nomads forced to settle in peripheral rural regions, some migrants with high socio-economic status also choose the Polish countryside as their permanent place of residence. As a result, Durka argued, we are witnessing diverse forms of cohabitation between long-term residents and newcomers to Polish villages. These new encounters generate emerging patterns of mutual relations and social interaction.

Another paper, by Sylwia Urbańska, titled *“Places and Solidarity in Conservative Rural Communities of Eastern Poland,”* presented findings from field research conducted between 2018 and 2022 in a rural municipality located on the Mazovia–Podlasie border. Urbańska proposed an innovative analytical approach to understanding how class position and the situatedness of rural women intersect with individual and collective forms of agency, practices of support and/or resistance, access to various types of capital, and gendered expectations. She focused on the role of local (in)formal support networks, as well as familial and community alliances, to reveal the complexity and ambivalence inherent in practices of resistance, solidarity, and survival strategies in de-agrarianising, remote, and conservative rural communities.

The issue of quality of life among rural seniors and the key developmental challenges of the countryside was addressed by Katarzyna Zajda and Agnieszka Michalska-Żyła in their paper *“A Smart Village for Seniors.”* The authors presented the core assumptions of the Smart Villages concept, including its key characteristics and the potential for designing social innovations within this framework to address the problems faced by older residents. The aim of the analysis was to identify the social challenges experienced by rural seniors that inspired local leaders to develop Smart Village initiatives. These concepts were critically discussed in relation to their key components:

the use of local resources, the integration of (communication) technologies, the creation of cooperation networks during the implementation phase, and the types of social innovations envisioned. The authors concluded by highlighting the potential of the Smart Villages concept to mitigate the difficulties faced by elderly residents of rural areas.

The final presentation, by Wojciech Goszczyński and Krzysztof Pietrowicz, titled *“Capitalism from a Bioreactor: New Technologies, Cultured Meat, and Visions of the Future,”* explored the implications of the rapid acceleration of market-driven technological change based on biotechnology and genetic engineering, closely intertwined with the development of artificial intelligence systems and the broader digitalisation of the economy and society. According to the authors, this process is deeply embedded in the current model of capitalism, which relies on technological innovation as its driving force. One of the most striking aspects of this transformation concerns agriculture and food production. In public perception, food production continues to be viewed as an important but relatively traditional economic sector, located in rural areas and closely linked to natural cycles. In reality, however, this sphere has long been subject to revolutionary technological transformations. Beneath the façade of a nostalgic image of “traditional farming” lies a complex system of human and institutional actors, technologies, scientific knowledge, and economic interests. Goszczyński and Pietrowicz argued that technological change is producing profound – though often invisible to consumers – transformations involving new organisms, industrial processes, and the expanding role of laboratory science. Their presentation reconstructed and analysed the corporate visions shaping this emerging branch of food production, examining how these visions represent the social consequences of new technologies and their potential to redefine the future of agriculture and rural life.

The 19th Polish Sociological Congress, held in Białystok from 16 to 19 September 2025, confirmed the growing importance of rural issues within sociological discourse. The wide range of presentations and discussions demonstrated that the study of rurality is becoming increasingly complex, while traditional boundaries between “city” and “village” are steadily blurring. As the papers presented showed, contemporary rural sociology focuses on processes of transformation, adaptation, and resilience in the countryside in the

face of global challenges – technological, climatic, demographic, and cultural. Participants unanimously emphasised that research on rural areas should occupy a more central place in sociological reflection, serving as a crucial point of reference for understanding the broader dynamics of contemporary social change in Poland and across Europe.

