
Factors for the Development of the New Rural Economy on the Example of Northeastern Poland

Submitted 15/07/21, 1st revision 02/08/21, 2nd revision 25/08/21, accepted 30/09/21

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Abstract:

Purpose: An essential element of local development is the possibility of multifunctional rural development, particularly the increased importance of non-agricultural functions, which is the basis of the new rural economy. The issue is essential in regions with a high share of rural areas; hence the article aims to determine the level of development of the new rural economy in urban-rural and rural communes in the Warmińsko-Mazurskie and Podlasie voivodships.

Design/Methodology/Approach: The ranking of communes is carried out based on a synthetic measure constructed by the taxonomic step of development by Z. Hellwig. The artificial action is created based on specific indicators, the selection of which is justified by the literature on the subject.

Findings: The new rural economy is characterized by a declining share of the primary sector of the economy, the development of the information society, extensive social networks, and a growing level of entrepreneurship. Its status in north-eastern Poland varies, and it is higher in the communes of the Warmińsko-Mazurskie voivodship than in Podlasie.

Practical Implications: The study supports the idea that the new rural economy does not mean that rural areas become more like the urbanized ones, which could adversely affect the quality of life through the decline of spatial features and landscape. Northeastern Poland has the characteristics to adopt the propose factors for further development.

Originality /Value: The analysis shows the spatial concentration of municipalities with a high level of development of the new rural economy, which results from general socio-economic processes (e.g., urban sprawl) and favorable conditions for the development of non-agricultural functions. As a result, it is recommended to research the correlation of the level of development of the new rural economy with, for example, sightseeing and natural values.

Keywords: New Rural Economy, local development, Northeastern Poland.

JEL Classification: O18, R11,

Paper type: Research study.

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1. Introduction

One of the critical challenges of local development in Poland is strengthening rural development processes. Rural areas embrace 93% of the Polish territory inhabited by 38% of the country's population, i.e., app. 15 million people (Krakowiak-Bal and Ziemiańczyk, 2017); hence, it is difficult to talk about sustainable development of the country without rural development. However, this development should be more often based on the fulfillment of non-agricultural functions. Therefore, initiatives of the multifunctional development of rural areas should be undertaken concurrently with the modernization of traditional sectors of the economy, which is one of the main assumptions of the so-called new rural economy.

A possibility of the development of non-agricultural functions of rural areas is significant regarding those areas where agriculture is still an essential element of the economic structure. One of them is the macro-region of north-eastern Poland characterized by considerable socio-economic internal diversity. It may be assumed that the consequence thereof is distinct factors and conditions of the multifunctional rural development. Hence, the aim adopted herein is to determine the level of development of the new rural economy in urban-rural and rural communes in the Warmińsko-Mazurskie and Podlasie voivodships. The achievement of this purpose allows us to verify the hypothesis according to which the macro-region of north-eastern Poland is diversified about the new rural economy's development level.

The aim is achieved, and the hypothesis is verified based on the method of taxonomic measure of development by Z. Hellwig. It involves the creation of a synthetic action based on specific (partial) indicators, the selection of which has been preceded by the analysis of the source literature. The source of statistical data is the Local Data Bank (Statistics Poland - formerly known in English as Central Statistical Office).

2. Literature Review

Local development in reference to rural areas: Local development is understood as the process of expected and positive changes within a specific area, including a given community's needs and objectives. Initially, this issue was mainly perceived quantitatively. However, as a range of problems (cases) comprised by the development has extended and its new dimensions have been incorporated therein, the qualitative aspect has started to gain importance since the end of the 20th century. Insofar as development policies after World War II was based on the paradigm of economic growth, since the end of the 20th century, the concepts of development emphasizing the importance of social and environmental objectives treated equally with economic ones have started to prevail (Podedworna, 2017).

However, development objectives of individual communities may be differently formulated, like the diversity of resources characteristic of a given territory. Therefore, what matters here is the spatial aspect of development and the importance

of regional and local (internal) resources, which corresponds to the change in the perception of development factors, the so-called endogenization of development factors (Churski *et al.*, 2018). The territorial nature of development processes emphasizes the importance of local resources. In contrast, attention should also be paid to more effective and efficient use of hidden resources or those that are improperly used. It appears to be particularly essential about rural areas in the context of the multifunctional use of resources.

As far as rural areas are concerned, it may generally be said that socio-economic development involves the transformation of the rural regions into an inhabitant-friendly environment allowing its residents to fulfill their needs and aspirations, both about working conditions, the level of remuneration as well as public services and cultural goods, with a sense of causation related to the changes and participation in the life of a local community (Rosner and Stanny, 2016). One may find in the source literature arguments for a critical revisioning of the epistemological approach treating "urban" and "rural" categories separately. On the one hand, rural development projects and processes may be initiated in a city; on the other hand, non-urban units are a reservoir of resources (economic, human, and natural).

Consequently, we can often see a departure from the dichotomic urban-rural approach, which underlies complementarity of resources, for the sake of a bioregion where interwoven relationships between rural and urban domains trigger the creation of new features and resources (Fanfani, 2018). This complementarity involves using many different resources in agricultural areas, not only those connected with agriculture. In this context, we should highlight a gradual promotion of the model of rural multifunctionality, which is manifested in decreasing the importance of the agricultural function for the sake of multi-directional and multi-tasking development. Hence, what becomes a vital paradigm of rural development is the need to create tasks that are on a par with agriculture, which entails investment in technical and social infrastructure and the involvement of local environments (Wesołowska, 2018).

Despite the complementarity of urban and rural areas, the local development level indicates significant differences between these categories of units. These differences concern crucial elements for the contemporary economy. It should be noticed that we can still observe differences in digitization between rural and urban areas. Contrary to cities, rural areas require a more personalized approach, which telecommunication companies cannot implement without proper public support. Most of all, it is necessary to consider the dispersion of demand for digital services and insufficient identification of the needs regarding digitization.

Within this context, public support should contribute to the determination of local markets for digital benefits, allowing to incorporate private entities into the service of a local community. The importance of regional connectivity and individual digital integration becomes more and more significant in the face of the growing digitization of the contemporary economy. Rural areas are more vulnerable to "offline" socio-

economic progress, which is currently one of the most substantial obstacles to development (Salemink *et al.*, 2015).

Therefore, local development in the context of rural areas is determined by current trends shaping the economy and, additionally, conditioned by the factors' characteristics of the discussed units. At present, rural development is mainly determined by the spatial accessibility of rural communes, rural de-organization and the increased importance of non-agricultural functions, the ownership structure of the agricultural sector, local finance, and demographic phenomena and processes (Rosner and Stanny, 2017). It may be presumed that rural areas' multifunctionality becomes crucial as it directly impacts the local structure of the economy and finance. Moreover, it may have an indirect positive effect on depopulation processes. In other words, rural development is, to an ever-greater extent, the fulfillment of additional non-agricultural functions. Therefore, the so-called new rural economy gains importance in the source literature.

Characteristics of the new rural economy: Currently, the analysis of the local economy is to a great extent focused on the issue of searching for new development factors, which become more and more critical about traditional elements such as land, work, or natural resources. In consequence, immaterial aspects of development become increasingly significant, particularly those connected with the use of knowledge and information and possibilities of their transfer and exploitation. The processes of structural changes in the economy (declining importance of agriculture, growth of the second and third sector) impact rural areas as well. Nevertheless, it should be emphasized that, for centuries, rural development has depended almost exclusively on agriculture. Hence, the transformation of the rural economy's structure is incredibly challenging. The perception of rural areas must change, both economically, socially, and politically. It may be assumed that the decline of the importance of agriculture is inevitable in the case of developed countries.

In contrast, the structure of the rural economy will be subject to significant changes. They will be manifested, among others, in the increased importance of small and medium enterprises. Consequently, the so-called New Rural Economic is emerging, wherein along with agriculture, the second and, most of all, third sector of the economy are developing (Copus *et al.*, 2011). Therefore, rural development should mean not only modernization of agriculture and transformation of the agrarian structure but also the encouragement of rural communities to develop their mechanisms of stimulation of growth and creation of non-agricultural workplaces (Zawalińska, 2009).

It should be emphasized that the development of the new rural economy should not be identified with rural areas becoming more like the urbanized ones. It is true that in the past, the meaning of the concept specifying rural development contained the modernization paradigm, which assumed urbanization processes of making villages look like cities; however, rural urbanization has not only failed to produce the

supposed effects but also caused environmental deterioration (Michalewska-Pawlak, 2015). The specificity of rural development should involve efforts to improve life quality and farming conditions with the concurrent preservation of zoning intensity and smaller anthropopressure (Stanny, 2013). Hence, it may be presumed that the new rural economy does not lead directly to rural areas looking like urban ones. Still, that rural area is assumed to fulfill new non-agricultural functions. Consequently, the new rural economy is determined by the following factors (Podedworna, 2017; Hałamska, 2012; Heffner, 2011):

- a declining share of the primary sector of the economy – the new rural economy is a multi-sector dynamic system using different technologies due to the occurrence of the activities other than agricultural;
- development of the information society – the new rural economy is less determined by space, and thanks to new ICT technologies, social and economic relations are extended while experiences are exchanged over a large distance in a short time;
- extensive social networks – a feature of the new rural economy is membership in various vertical and horizontal networks, within the international aspect too, in opposition to fixed socio-economic structures;
- a growing level of entrepreneurship and innovation – due to networking and extensive connections rural areas are not only the places of agricultural production but they may also fulfil production and service functions in innovative sectors too.

It can be noticed that the development of the new rural economy will be seen in changes affecting different socio-economic aspects. In particular, the changes should be of a quantitative and qualitative nature understood as structural transformations related to economy, infrastructure, and space, facilitating the development of the non-agricultural business activity. Additionally, actions taken to reduce economic and social marginalization will pose a challenge. In the aspect of the information society, rural development will require technological and technical changes to enable access to IT tools, electronic public services, and modern ICT solutions both about manufacturing activities and daily life (Niedzielski, 2015). Currently, limited digitization of the economy and society directly hampers entrepreneurship and innovation. It indirectly affects their level through the lack of a possibility of interaction and dissemination of innovative solutions.

The development of innovation in rural local government units is restricted by the lower degree of digitization and, generally, by the factors' characteristics of such units. What needs to be stressed here is the occurrence of bonding social capital limited by the contacts with a family and neighbors, which does not favor the emergence of innovations. Strong community bonds may suppress the need for innovative and modernizing changes (Zajda, 2014). It is one of the reasons why current research is primarily focused on the measurement and determination of innovation growth factors in urban areas. In contrast, the importance of the relations

between urban and rural areas is researched to a lesser extent. These relations are especially significant for peripheral and rural regions, where the ties with urban cores determine innovation. Again, it would seem fitting to depart from the urban-rural dichotomy about the level of innovation as well focusing on the one hand, on mutual interaction and on the ways rural and urban areas can benefit from each other or suppress the innovation base in peripheral regions (Eder, 2019).

As far as the possibilities of the new rural economic development are concerned, it may generally be said that rural areas should be understood as socio-economic systems to a greater extent than other areas. Therefore, the management of rural areas' development should primarily be bottom-up. Furthermore, it should create a space for cooperation between local authorities and the community. As a result, room for undertaking initiatives concerning new solutions is made. Thanks to the bottom-up nature of such actions, they are more likely to positively impact socio-economic development (Castro-Arce, Vanclay, 2020).

New rural economy in north-eastern Poland: North-eastern Poland, primarily identified with the Podlasie and Warmińsko-Mazurskie voivodships, is a macro-region where the new rural economic development should be significant. Agricultural production in this macro-region has been a crucial element of the structure of the economy and employment for centuries. Despite the modernization of agriculture, a currently vital issue is the possibility of multifunctional rural development in this macro-region. That is why rural and urban-rural communes in north-eastern Poland (the Podlasie and Warmińsko-Mazurskie voivodships) have been analyzed. Altogether, 205 communes (27 urban-rural and 78 rural communes in the Podlasie voivodship; 34 urban-rural and 66 rural communes in the Warmińsko-Mazurskie voivodship) have been analyzed. Operationalization and indexing of the new rural economy have been carried out based on the analysis of the source literature (Table 1).

Table 1. Operationalization and indexing of the new rural economy

Factor	Indicator
a declining share of traditional kinds of activities for the sake of the PKD sections connected with the information society, communication, finance and science	economic entities in sections J-N per 1000 residents
extensive social networks	foundations, associations, and social organizations per 1000 residents
a growing level of support for non-agricultural business activity	business support organizations per 10.000 entities of the national economy
development of entrepreneurship	natural persons carrying out a business activity per 1000 people

Source: Own study.

The synthetic indicator is indexed based on the highlighted specific (partial) indicators excerpted from the Local Data Bank (Entities of the national economy, 2021). This aim is achieved by using the taxonomic measure of development (TMD) method by Hellwig (1968), and Pietrzak (2014). This method allows determining a linear hierarchy of objects based on the distance from the so-called development pattern. Units are organized (arranged) with the use of synthetic measures.

Including the values of the synthetic indicator for the studied units, each studied unit may be allocated to the so-called class intervals, i.e.:

1. higher level of development: $TMD_i \geq TMD + S TMD$,
2. average higher level of development: $TMD + S TMD \geq TMD_i > TMD$,
3. average lower level of development: $TMD > TMD_i \geq TMD - S TMD$,
4. lower level of development: $TMD_i < TMD - S TMD$,

where:

TMD_i – the value of the synthetic measure of the *i*-th unit,
 TMD – mean average TMD,
 $S TMD$ – standard deviation TMD.

The synthetic indicator for 2009 and 2019 has been indexed based on the specific (partial) indicators. The adopted method allowed to assign the communes covered by the study to four classes of development (Table 2). It should be emphasized that the TMD method allows to index objects linearly each year. Still, individual values of the units are not comparable in the inter-annual perspective. Based on the distance from the pattern, the technique allows to relate the analyzed values to the levels obtained by other units each year.

Table 2. Cardinality of class intervals of the new rural economy of the communes in north-eastern Poland

	TMD 2009	TMD 2019
higher level of development (0,27 <=)	31	36
average higher level of development <0,18;0,27)	59	55
average lower level of development <0,09; 0,18)	91	94
lower level of development <0; 0,09)	24	20

Source: Own study.

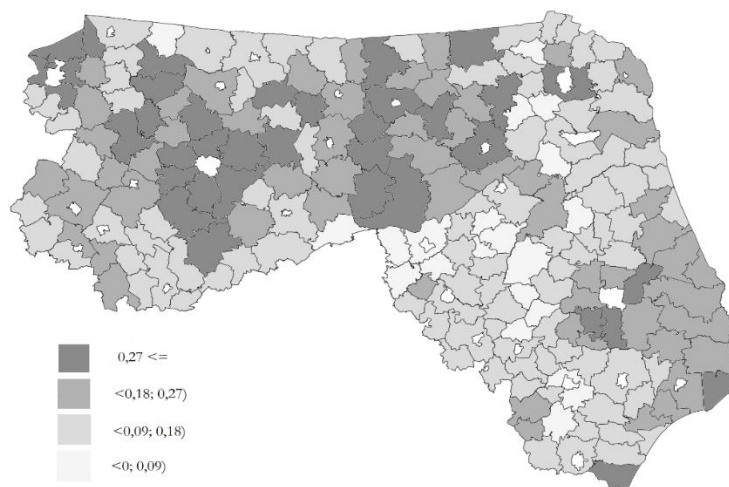
Compared to 2009, the cardinality of individual class intervals in 2019 slightly changed. On the one hand, five more units were allocated to the higher level of development than in 2009; on the other hand, the cardinality of the average higher class of product fell by four units. In 2019, the cardinality of the standard lower level of development was like 2009 (94 to 91 respectively), the same as the cardinality of the lower level of development (20 to 24 respectively). Considering the number of the communes covered by the study (205), the changes between individual categories

should be regarded as slight, which prompts the conclusion that diversification of the communes about the new rural economic development did not change significantly in 2009-2019. The spatial analysis of the research results included in Figure 1 is of a more excellent informational value.

3. Research Methodology

According to the synthetic indicator, the spatial analysis of the commune's distribution allows us to say that most communes assigned to the higher level of the new rural economic development are located near the most significant urban centers in the macro-region covered by the study (Białystok, Elbląg, and Olsztyn). It may be assumed that it results from the so-called urban sprawl phenomenon: the significant and rapid expansion of urban areas taking over lands around large agglomerations. It is a common phenomenon occurring in the surroundings of contemporary agglomerations (Heffner, 2009). The second conclusion that may be drawn from the analysis of Figure 1 is the spatial concentration of the units of a higher or average higher level of the new rural economic development, e.g., in the areas of outstanding natural features and landscape (The Great Masurian Lake District and Białowieża Primeval Forest), which allows presuming that tourism plays a significant role in the development of non-agricultural business activity.

Figure 1. Spatial diversification of the indicator of new rural economy development of the communes in north-eastern Poland



Source: Own study.

Considering units allocated to the lower or average lower level of development, they are primarily located in the western part of the Podlasie voivodship (Łomża Land). It is a subregion of an essential share of agriculture in the production (dairy production and processing). Admittedly, even though an increasing degree of agricultural

modernization in these areas should be acknowledged, the development of non-agricultural functions in this area is the lowest in the macro-region covered by the study. It may generally be noticed that most units of the lowest level of the new rural economic development are in the Podlasie voivodship. It should be presumed that the main factors conditioning diversification of the new rural economic development story between the two regions may be as follows: intensification and modernity of traditional agricultural production, the ownership structure of the farms including their size, demand for non-agricultural workplaces, or demographical processes.

However, further research and cause and effect analyses are necessary to establish the relation between individual barriers or factors of the new rural economic development and its level.

4. Conclusions

One of the main limitations hampering the development of non-agricultural functions of rural areas was a spatial barrier. At present, along with the progress of digitization, these limitations appear to lose importance. Hence, the possibilities of the new rural economic development are more significant than ever. The story of IT technologies diminishing the level of digital exclusion of these areas becomes a necessary condition. It should be noticed that rural areas are subject to the trends of the modern economy as well, especially those connected with the information society.

Hence, one may find in the source literature the concept of the new rural economy that would rely less on agricultural production and fulfill non-agricultural functions to a greater extent. The consequence would be a higher level of entrepreneurship mainly related to the activities connected with the information society. Such a change in the economy's structure requires appropriate support of non-agricultural training in foundations, associations, and social organizations. The new rural economy would be additionally strengthened by extensive social networks, which are particularly important as far as the transfer of knowledge and information is concerned.

At the same time, it should be stressed that the new rural economy does not mean that rural areas become more like the urbanized ones, which could adversely affect the quality of life through the decline of spatial features and landscape. On the contrary, by the objectives of development territorialization, individual parts of rural areas may become one of the bases of the new economy, e.g., through the development of tourism.

From the perspective of local development, the fulfillment of new functions by rural areas should also facilitate their socio-economic development to the extent which will allow their residents to achieve both professional and personal aims and ambitions.

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