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ASSESSING THE LEVEL OF ORGANIZATIONAL AND ECONOMIC SYSTEM OF SUBURBAN COUNTRYSIDE DEVELOPMENT

Introduction. The article analyzes the level of organizational and economic system of suburban countryside development in order to show within what strategy it is formed. It offers a methodological approach to the assessment of the level of organizational and economic systems of suburban countryside through the integrated zoning and clustering. The study also defines four main directions of suburban countryside development. Foreign experience of formation and functioning of suburban countryside has been examined and analyzed (a case study on Poland and some individual cities).

Purpose. The purpose of this research is to find out existing problems of rural area development, to learn experience of foreign countries and a possibility to use it in Ukraine, to come up with proposals and main directions for the suburban countryside to transform.

Results. The author's finding is suburban countryside zoning which allows examining the main factors that determine a system of appropriate measures to develop these areas. The next step was a cluster analysis based on the results of multi-factor analysis of suburban countryside. It revealed priorities in their organizational and economic support by the parameters which are tightly related to the dependent variable characteristics of area urbanization. A

summary of the basic processes which are typical of suburban countryside shows several directions of area transformation.

We have examined and studied some foreign countries' experience developing suburban countryside where Ukraine can gain a valuable experience from neighbouring Poland.

Conclusion. It proposes methodological approaches to the assessment of the level of organizational and economic systems of suburban countryside through the integrated zoning and clustering. Also the results allow stating main directions of suburban countryside development and characteristic activities in a particular area: recycling industry, agriculture, logistics and recreation. An advanced foreign experience in the segment of suburban countryside development has been studied.

Key words: Rural Population; Rural Area; Suburb; City; Clustering; Urbanization; Transformation; Gmina; Powiat; Voivodeship; City with Powiat Status.

Problem Delineation. These days the role of rural areas urbanization is becoming more and more significant. The proximity of these areas to big cities plays an important role in their economic and social transformation. It changes a socio-professional and demographic structure of rural population, their lifestyle, level of ordering of rural settlements, increases the level of non-agricultural employment, makes city population move as well as transfer objects of industrial and social use from a central city to suburbs and accelerates the growth of circular migration.

The problem of the relationship between «the city and the suburban zone» that emerged in times of the first urban settlements determines peculiarities of organizational and economic system of suburban countryside. Adjacent areas are always involved in the processes of urban development. According to general systems theory, a city and its suburban zone form a complex social system where a city is the nucleus and a suburban area is the peripheral territorial unit [13]. It is obvious that the suburban countryside formation is related to the city development and effected by some processes.

Foreign countries' experience is important and urgent for Ukraine today. Practical aspects are of particular interest because they show how to evaluate organizational and economic system of suburban countryside.

Review of Past Research and Publications. Theoretical and methodological bases of society development were studied by such foreign and domestic economists as D. Bell (Bell, 1999) [1], J. Galbraith (Galbraith, 1969)

[2], J. Clark (Clark, 2000) [3], A. Schumpeter (Schumpeter, 1982) [4] etc. Among Ukrainian scientists whose published research findings most profoundly and theoretically lay the ground for the issues of rural area development, formation and analysis of level of organizational and economic system of suburban area development, are O.M. Borodina [5], V.S. Diesperov [6], Sh.I. Ibatullin [7], M.I. Malik [8], O.M. Maslak [9], N.V. Moroziuk [10], O.I. Pavlov [11], V.K. Tereshchenko [12] and many other researchers. However, despite the significance and value of the research, the results highlight only some aspects of formation of organizational and economic system of suburban countryside development. Therefore, more research in this area is needed to expand and further theoretical and methodological bases.

Purpose of the Article. The main objective of the study is to analyze the level of organizational and economic system of suburban countryside development.

Presentation of the Results. Most researchers define suburbs as a transition zone (by way of dominant industrial and economic activity, land uses, social and demographic characteristics) which is, firstly, located between densely built-up areas of a city, and secondly, is a rural-urban fringe, where there are virtually no urban functions: poor levels of area's transportation, logistics, and social infrastructure [14, 15]. In contrast to western peculiarities of a big city's territorial structure zoning which comprises 5 main zones: close, two transition, remote and the rural fringe zone, we used a structural-functional approach to the classification of the suburban zones in Ukraine. It allows us to distinguish 4 main suburban zones according to their functional load: close, transition, remote zones and the rural fringe zone (Fig. 1).

The proposed suburban countryside zoning allows examining the main factors that determine a system of appropriate measures to develop these areas. The first group of factors is of an administrative character in establishing urban boundaries i.e. it takes into account the fact that legal boundaries of a city often «outreach» natural boundaries and the close (and sometimes transition) suburban zone appears to be practically included in the city limits. The second group of factors comprises the factor of so-called seasonal suburbanization which is a seasonal increase in demand for rural dwellings. This in turn stimulates an active development of recreation and settlement functions, green rural tourism in the remote zone of rural settlements.

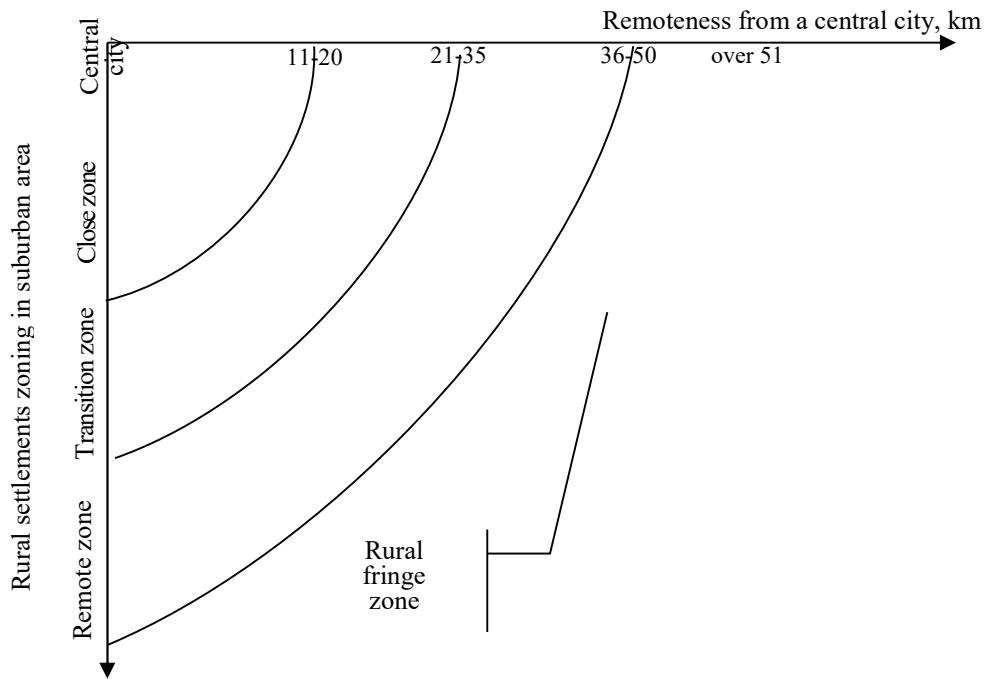


Fig. 1. Suburban Countryside Zoning

Source: Author's figure

The third group suggests considering the factor of high external migration attractiveness of rural settlements in close suburban zone which is mainly formed by external migrants who enter the city.

The fourth factor includes the low level of logistics and transport infrastructure manifested in the dependence of basic processes of rural areas development on transport links. Institutional factors also have a great influence on the tendencies of suburban countryside development – local authorities have practically no considerable effect on the processes of rural areas planning. This eventually leads to a chaotic development of this rural area. As a result, we offered a methodological approach to the assessment of organizational and economic system of suburban countryside through integrated clustering and zoning. This, allowed us to identify the main directions of suburban countryside transformation. In the first stage we performed a multi-factor analysis by means of application package software STATISTICA 10 to find out how a city influences suburban countryside development. The results enabled us to substantiate the indicators that characterize the remoteness of the area from the city, a type of the settlement, demographic aspects (number and density of population), characteristics of the area's production, infrastructure, land market, and the environmental situation in suburban countryside of cities. The next step was a cluster analysis based on the results of multi-factor analysis of suburban countryside of cities in the region. It revealed priorities in their organizational

and economic support by the parameters which are tightly related to the dependent variable characteristics of area urbanization: a number of medical institutions (P8), a number of enterprises (P4), a number of agricultural enterprises (P5) and area of suburban countryside (P2). The results of the cluster analysis are shown in Fig. 2.

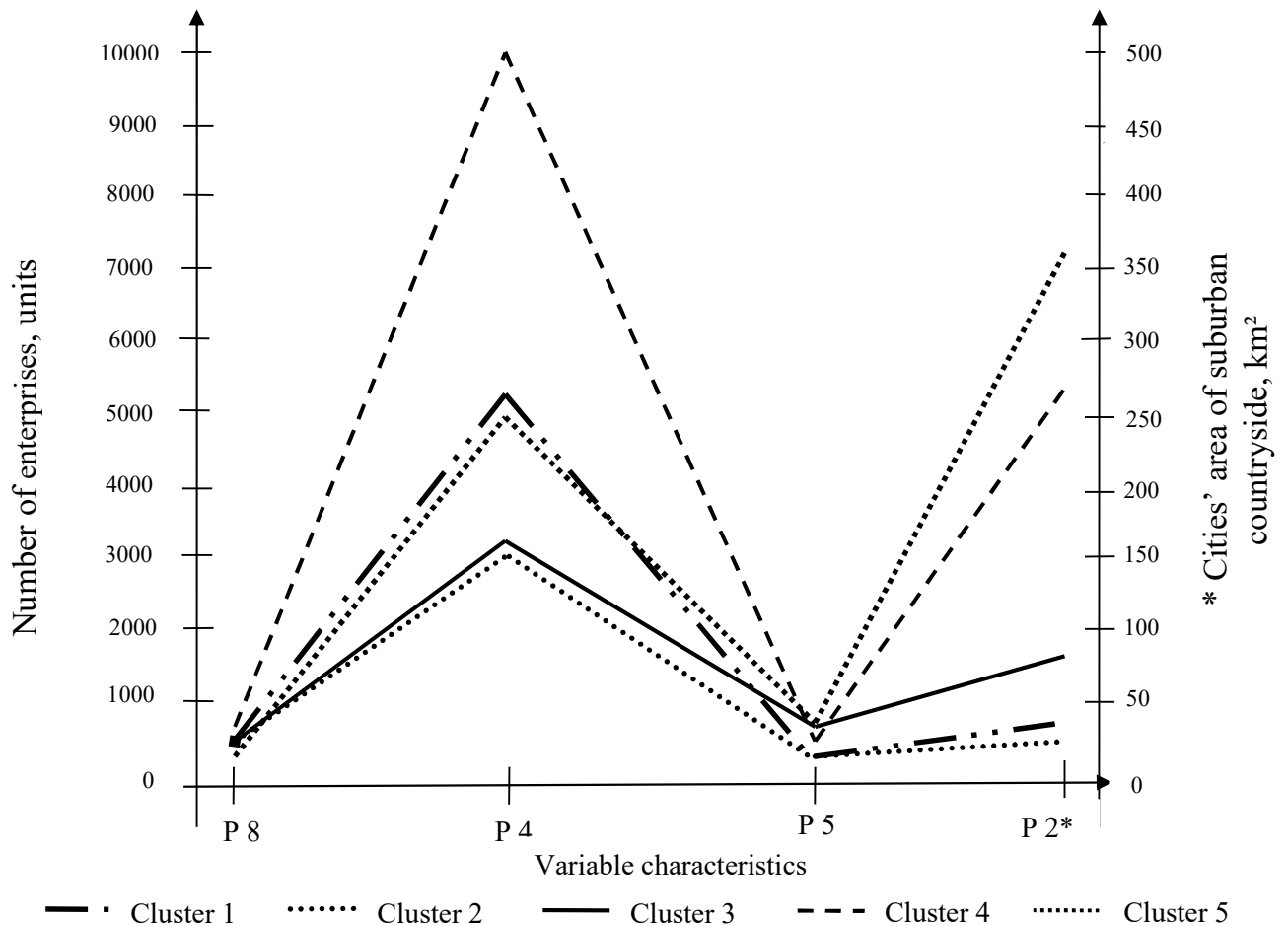


Fig. 2. Cluster analysis results of suburban countryside development of cities

Source: Author's figure

It has been found out that the entire range of the suburban countryside of cities, examined according to these four parameters, is divided into five clusters. This allows us to define strategic scenarios of their development. Thus, we claim that there are four main directions of the development of suburban countryside of cities: 1) implementation of urban, industrial, transportation and logistics functions; 2) formation and development of recreational activities, rural green tourism; 3) restoration of agricultural sectors; 4) predominating processes of degradation in rural areas.

Practical implementation of these main possible directions of suburban countryside transformation is visually illustrated in Fig. 3.

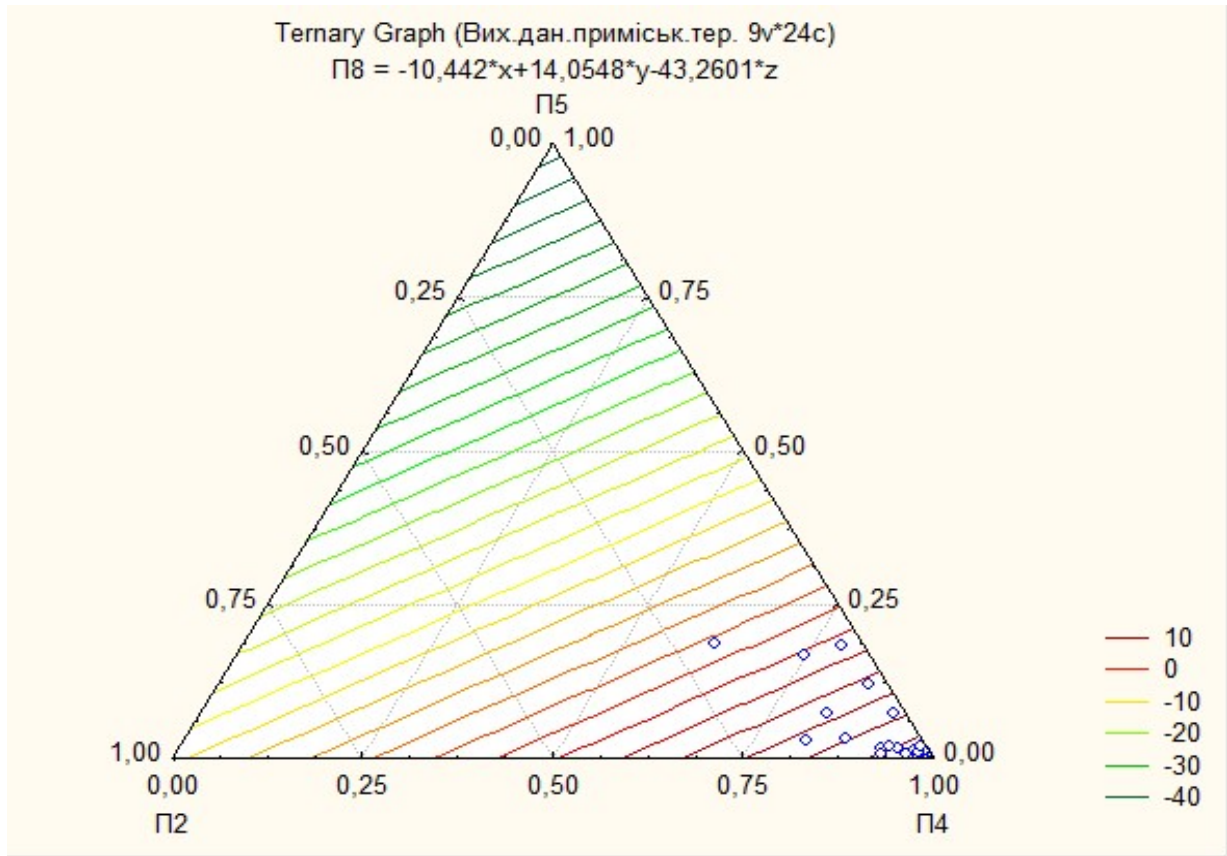


Fig. 3. Dominant directions of suburban countryside transformation within the elements of area structure of suburbs

Source: Author's calculations

Data in Figure 3 show that the main zones of the described directions of transformation can be identified as generalized processes of rural areas transformation. Rural areas throughout the close zone are characterized by high penetration of urban functions. It dates back to Soviet times when industrial development of this sector in the region caused the formation of organizational and economic structure with a significant spread of urban functions in the transition zone of the suburbs along with the processes of degradation of the traditional rural economy [16, 17]. The study has proved that recreational activities are typical for rural areas in both transition and remote suburban zones and they are the most preferable ways of rural area transformation.

We should consider some advanced foreign practices in the regulation of the target segment of the subject analyzed so that the study will be of a systematic character.

The development of the Parisian agglomeration in 1949-1953 made it necessary to deconcentrate industry by creating new industrial centres or developing available ones in the suburbs, yet small in size [18]. This results in a redistribution of industry and demographic resources from the city to suburbs to balance social and economic processes in the city and suburbs.

In the suburbs of Shanghai new satellite-towns were created, and the existing settlements got further development. Unlike other countries, in Chinese agglomerations suburban areas were landscaped. They also paid a lot of attention to the development of suburban agriculture [19].

It is necessary to have a closer look at the experience of Poland, as further implementation. There were two stages in the reform of local government in Poland. The first one was launched in 1990 after the adoption of the relevant law and democratic elections to the Councils of municipalities (known as gminas). The administrative borders of newly established gminas coincided with the boundaries of territorial bodies of state administration, which had existed by 1990. Gminas were divided into smaller administrative units known as solectwo (in rural areas) and districts (in cities), which do not have legal personality in their tasks and responsibilities and can vary significantly depending on decisions taken by specific councils of gminas. Provinces (known as voivodeships) remained the levels of state administration and there were regions instead of powiats.

A one-level local government division in Poland had lasted by 1999, then it was enlarged to 16 voivodeships and regions were reorganized into powiats. Since 2002 there have been significant changes aimed at strengthening the executive power in gminas and reducing its dependence on councils.

By 01.09.2016 there were 2478 gminas, 314 powiats and 16 voivodeships in the Republic of Poland (Table 1).

1. Demographic potential of administrative units in the Republic of Poland

Type of unit	Number of units	Average area (km ²)	Average number of population
Voivodeship	16	19500	2400,0
Powiat	314	974	81,0
City with powiat status	65	108	198,0
Gmina	2478	126	15,4

Source: materials of the author's training trip to the Republic of Poland, September 25th – October 1st, 2016

Figure 4 demonstrates a structure of public administration in the Republic of Poland. Administrative authority at voivodeship level is a government administration headed by the governor (called the voivode). A voivode, within his tasks and competence, establishes acts of local law that are in force in the voivodeship. He performs tasks through voivodeship's institutions and heads of combined administration. A governing voivode exercises supervision over the combined administration, but in the administrative process it is subordinate to higher authorities, they are heads of central administration.

Also the voivodeship has a non-combined administration – it includes local government administration bodies which are subordinate to ministers or heads of central administration in relation to which the voivode exercises coordinating and advisory powers, and can partially control them. A voivode makes representations or agrees to the creation and elimination of non-combined administration.

This clear division of powers and responsibilities among the various levels of local government and public authorities is noteworthy. It allows avoiding «conflict of interest» and gminas feel free to exercise their authority. It is important that they check legality of decisions of local authorities, rather than their appropriateness.

After Poland joined the EU in 2004, it became the largest recipient of its structural and investment funds. Support for the EU referendum in 2003 was 77,45 %, and after 10 years of membership it rose to 89 %. Wage growth averages 70,71 % after 10 years of membership. Reduction of the unemployment rate – from 19,50 % to 13,50 %. Additional financing by 2013 – EUR 61 billion (after recalculation of membership dues) from which EUR 4 billion is additional financing for Lublin voivodeship 2014-2020 – EUR 75 billion.

2343 euros per person were allocated for the period of 2014-2020, which is the basis for the implementation of local and regional development programs. Voivodeships manage a greater amount of the money (41,5 % or EUR 28 billion).

Wyszkow powiat covers 6 gminas. Own revenues of Wyszkow powiat in 2015 were 26 % (Table 2).

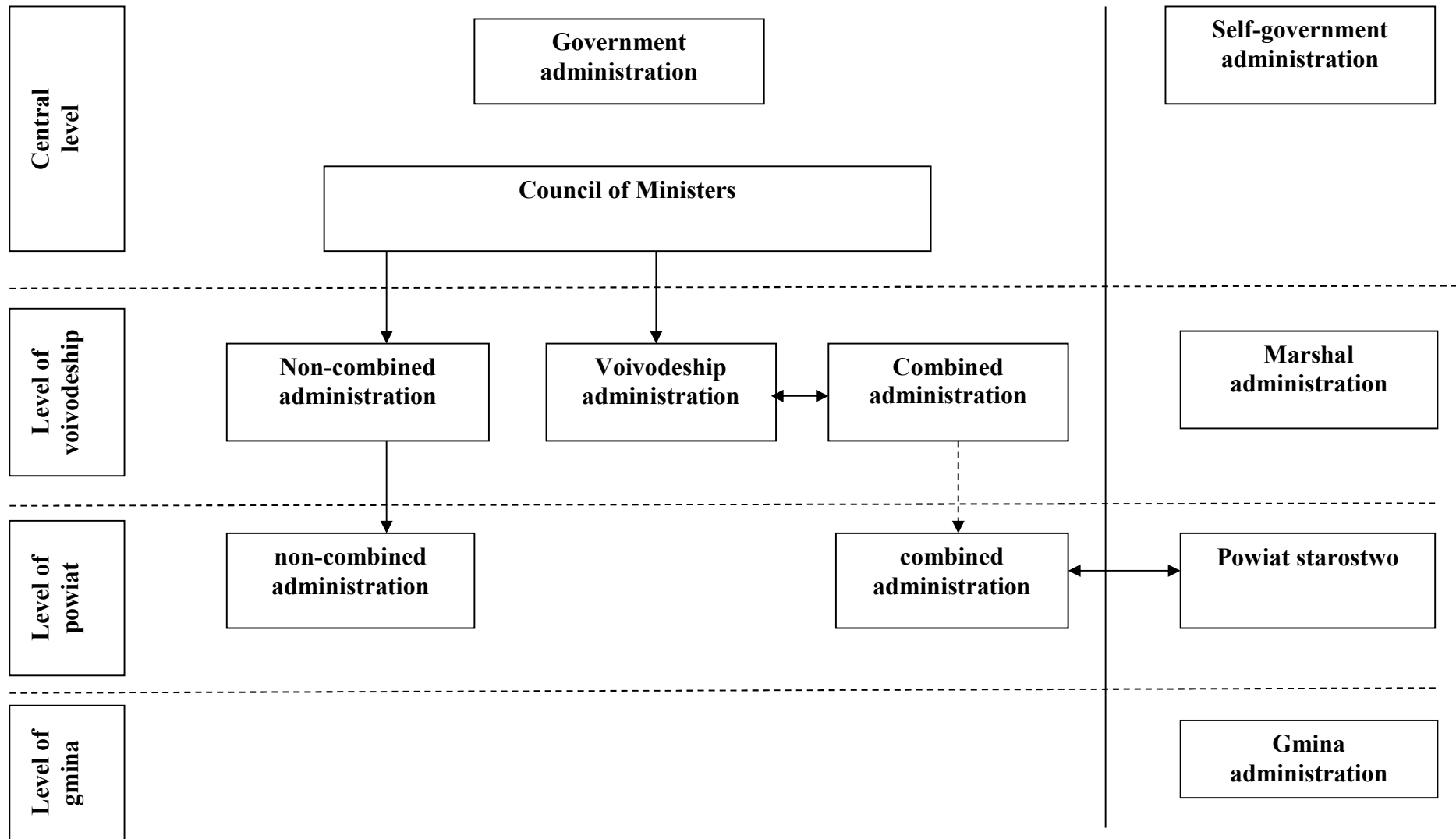


Fig. 4. Structure of public administration system in the Republic of Poland

Source: materials of the author's training trip to the Republic of Poland, September 25th – October 1st, 2016

2. Structure of revenues of Wyszkwow powiat budget in 2015

№	Source	Amount	
		Zloty	mln. euros (exchange rate PLN 1 = EUR 0,2305)
1.	Own revenues	22199183	5,117
2.	Subventions and funds for current purposes	17970526	4,142
3.	Subventions and funds for investment purposes	7104988	1,638
4.	Capital subvention	37891667	8,734
	Yearly total	85166364	19,631

Source: materials of the author's training trip to the Republic of Poland, September 25th – October 1st, 2016

The study of the dynamics of revenues proves that they were 2,8 times higher during the 1999-2015s, and 2,2 times higher during the 2004-2015. Half of own revenues is powiat's tax on personal income of individuals, other PLN 340 thousand is a tax on income of legal persons. A significant amount of money is charges for the use of social institutions of students in orphanages.

In the structure of expenditures, PLN 73,214 million is current expenditures, the remaining one is investment. In 2015 36 investment objectives were completed in Wyszkwow powiat: construction of roads and improvement of traffic safety. They also opened a number of public health care institutions, sports complexes and social houses for children (Table 4).

It should be mentioned that decentralization and accession of Poland to the EU had a positive impact on the increase in investment spending. Thus, in 1999 in Wyszkwow powiat, their share in total expenditure was only 2,95 % or PLN 870,7 thousand, in 2003 – 9,18 % or PLN 3,3 million and in 2004 – 15,98 % or PLN 6,5 million.

The budget of Podkowa Lesna gmina is PLN 30 million, of which one third is local taxes (the largest share belongs to the property tax), 12, 2 million is education subvention (given to 1 student regardless of their place of residence and covers 70 % of the cost for their training), 4 million is subventions and 0,5 million is an income from public property.

Długosiodło gmina is located 75 km away from Warsaw and 24 km away from Vyshkovo. It includes 40 villages where 16,5 thousand people live. It occupies 16,7 thousand hectares which include 6,5 thousand hectares of forests and 9,1 thousand hectares of agricultural land. There are 1443 individual farms specializing in the production of environmentally friendly products. The local economy provides 78 % of local population employment, but in the area of the gmina there are no large enterprises. An average income per inhabitant is PLN 600.

3. The structure of budget expenditures of Wyszkwow powiat in 2015, PLN

№	Expenditures	Amount	
		Zloty	mln. euros (exchange rate PLN 1 = EUR 0,2305)
1.	Current expenditures	73213806	16,9
2.	Investment expenses	11704500	2,7
	cluding financial assistance from other local authorities and the State Forestry	2221839	0,5
	subventions from the EU funds	1699104	0,4
	subventions from trust funds and the state budget	3272521	0,8
	own funds	2549486	0,6
	credits and borrowings	1962000	0,5

Source: materials of the author's training trip to the Republic of Poland, September 25th – October 1st, 2016

Although gmina is rural but it has a developed infrastructure which makes it attractive to educated and financially independent people. Each building, no matter where it is located, has a centralized water supply. For this purpose, two modern water treatment plants were built.

In the gmina there is a post office, two health care centres (public and private), an emergency service, a dental centre, a police department, a fire station, stores, 4 elementary schools, a middle school, a kindergarten, cultural and sports centres, a library, an information centre and the like.

4. Sources of revenues of voivodeship, powiat and gmina

Voivodeship	Powiat	Gmina
<p>Own revenues: Participation in national taxes: - tax on personal income of individuals (1,6 %); - tax on income of legal persons (15,9 %). Revenue from financial property; Inheritance and donation to the voivodeship; Revenues from budget units of voivodeship; Interests on delayed transfers of taxes and incomes; Other own revenues</p>	<p>Own revenues: Participation in national taxes: - tax on personal income of individuals (10,25 %); - tax on income of legal persons (1,4 %). Subventions from the state budget for the implementation of the powiat's tasks; Target subventions from the state budget for the implementation of the tasks of powiat's different services, inspections and protection of the powiat; Revenues from the powiat's budget units; Revenues from the powiat's material property</p>	<p>Own revenues: Inheritance and donation to the gmina Revenues from taxes on real estate, agriculture, forestry, transport, income of individuals paid as a tax card, keeping dogs, inheritance, donation; Revenues from payments: financial, commercial, local, administrative, operational and others; Participation in national taxes: - tax on personal income of individuals (39,34 %); - tax on income of legal persons (6,71 %). Revenues from municipal property; The total subventions from the state budget; Target subventions for the implementation of orders and financing tasks;</p>
<p>Capital subvention: Equal quota for voivodeships with a population of less than 3 million people Voivodeships, where an unemployment rate is higher than 110 % of the national average, receive a portion of equal quota; road network density per one inhabitant is below the national average; GDP per person is 75 % below the national average. Subventions for tasks assigned by state administration and for co-financing of voivodeships' tasks.</p>	<p>Capital subvention: Equal quota for voivodeships - where unemployment is higher than 110% of the national average; Educational for secondary and vocational schooling; Subventions for tasks assigned by state administration and for co-financing of powiat's tasks.</p>	<p>Capital subvention: Equal quota for gminas where an average density of population is below the national average; Educational – for secondary education; Subventions for tasks assigned by state administration and for co-financing of the gmina's tasks.</p>

Source: materials of the author's training trip to the Republic of Poland, September 25th – October 1st, 2016

The budget of Vyshkovo gmina is the most balanced in Poland and has the smallest deficit. Budget revenues are PLN 112,029 million, half of which is education subvention. Own revenues amount to 30-40 %. Local taxes are taxes on property, transport, forestry and agriculture. The gmina also participates in taxes on income of individuals and legal persons. In contrast to Ukraine, they get taxes of individuals from enterprises operating in a different territory but employing local residents.

Conclusion. The results of the research have allowed us to:

1. state that urbanization processes in modern society are moving from economic field to social one which results in spreading an urban lifestyle. Socio-economic, organizational and economic relations between a city and its suburbs are based on a wide range of productive, labour, cultural and household, agricultural, infrastructural, and recreational relations;

2. propose methodological approaches to the assessment of the level of organizational and economic systems of suburban countryside through the integrated zoning and clustering;

3. define main directions of suburban countryside development. They include implementation of urban, industrial, transportation and logistics functions; formation and development of recreational activities, rural green tourism; restoration of agricultural sectors; predominating degradation processes in rural areas as well as the priorities of organizational and economic supply i.e. characteristic activities in a particular area: recycling industry, agriculture, logistics and recreation.

4. in perspective further research will be conducted to design basic economic and financial tools which will greatly contribute to giving an accurate description of strategic scenarios of rural development for each of the clusters.

5. the foreign experience that we have studied will allow us not only to define the strategic trends in restructuring the existing approaches to assessing the level of organizational and economic system of the suburban countryside, but also to minimize possible risks of potential errors in the stimulation of the suburban countryside.

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Морозюк Н.В., Слюсар С.Т., Перчук О.В. Оцінка рівня організаційно-економічної системи розвитку сільських територій приміської зони. У статті проаналізовано рівень організаційно-економічної системи розвитку сільських територій приміської зони для обґрунтування подальшої стратегії її формування. Запропоновано методичний підхід до оцінки рівня організаційно-економічної системи розвитку сільських територій приміської зони на основі комплексного зонування і кластеризації. Обґрунтовано чотири основні напрями розвитку сільських територій приміської зони. Розглянуто та проаналізовано зарубіжний досвід формування та функціонування розвитку сільських територій приміської зони (на прикладі Республіки Польщі та окремих міст).

Ключові слова: сільське населення; сільська територія; приміська зона; місто; кластеризація; урбанізація; трансформація; гміна; повіт; воеводство; місто на правах повіту.

Морозюк Н.В., Слюсар С.Т., Перчук О.В. Оценка уровня организационно-экономической системы развития сельских территорий пригородной зоны. В статье проанализирован уровень организационно-экономической системы развития сельских территорий пригородной зоны для обоснования дальнейшей стратегии его формирования. Предложен методический подход к оценке уровня организационно-экономической системы развития сельских территорий пригородной зоны на основе комплексного зонирования и кластеризации. Обоснованно четыре основных направления развития сельских территорий пригородной зоны. Рассмотрены и проанализированы зарубежный опыт формирования и функционирования развития сельских территорий пригородной зоны (на примере Республики Польша и отдельных городов).

Ключевые слова: сельское население; сельская территория; пригородная зона; город; кластеризация; урбанізація; трансформація, гміна; уезд; воеводство; город на правах уезда.

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