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

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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 and characteristic activities in a particular area: recycling industry, agriculture, logistics and recreation.

**Keywords:** rural population, rural area, suburb, city, clustering, urbanization, transformation.

**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.

**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.

**Allocation of parts of a common problem unresolved earlier.** 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.

**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.

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 fac-

tors 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.

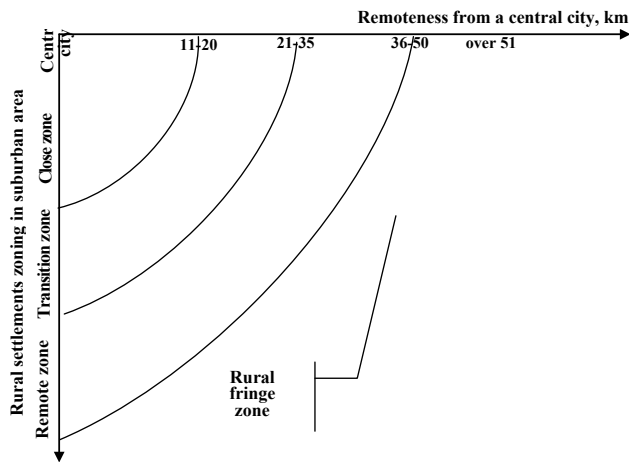


Fig. 1. Suburban Countryside Zoning

Source: Author's figure

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, exemplified by Kyiv region, 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. Its 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 in Kyiv region. 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 Figure 2.

It has been found out that the entire range of the suburban countryside of cities in Kyiv region, 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 in Kyiv region: 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.

In general, throughout the region there is a natural shift from traditional rural activities, which

are highly penetrated by urban functions when it is close to the centre, to degradation processes in rural areas on the periphery. A summary of the basic processes which are typical of suburban countryside of cities in Kyiv region shows several directions of area transformation (Fig. 3).

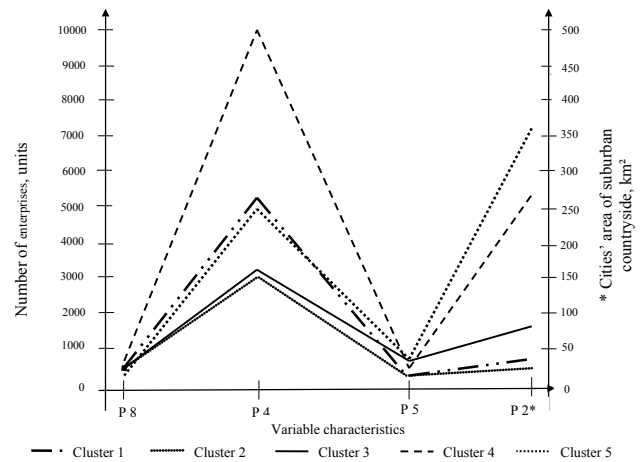


Fig. 2. Cluster analysis results of suburban countryside development of cities in Kyiv region

Source: Author's figure

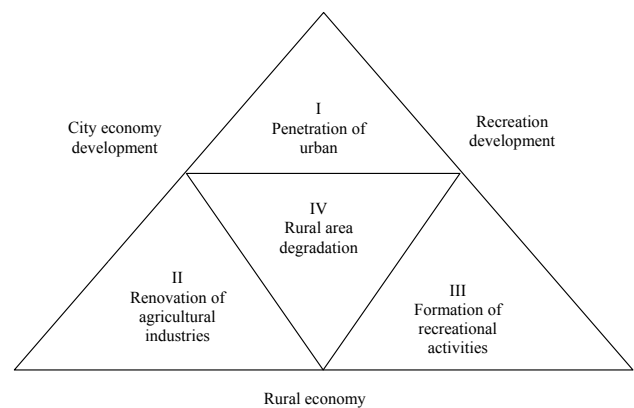


Fig. 3. Main directions of suburban countryside transformation in Kyiv region

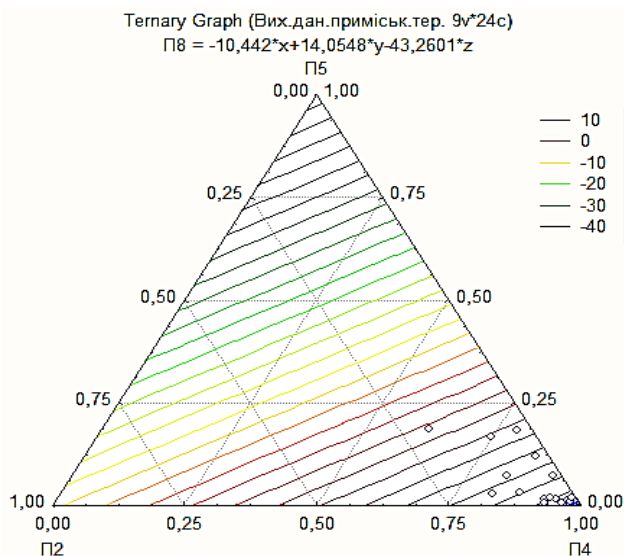
Source: Author's figure

Practical implementation of these main possible directions of suburban countryside transformation is visually illustrated in Fig. 4.

Data in Figure 4 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 goes 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 have found out that various agriculture industries are located in the transition zones of suburbs, where they play an important role in rural

area transformation along with recreational function. These two ways of transformation are also being developed in the zone of rural peripheries in Kyiv region. It is favourable conditions in the mentioned above regions and sectors that facilitate the agriculture to be recovering quickly. We state that among the factors significantly affecting the development of industrial sector and occur more frequently on the periphery, are location and ecological condition of the territory. It has been established that degrading rural areas are located on the periphery of the region which lack both «urban» and «rural» as well as recreational activities in the peripheral rural areas.



**Fig. 4. Dominant directions of suburban countryside transformation within the elements of area structure of suburbs in Kyiv region**

Source: Author's calculations

Spreading elements of «urban» economy are gradually taking all other forms of rural areas development away from the boundaries of Kyiv. Transition rural areas are characterized by an active development of agricultural industries and recreational activities. Recreational ways of rural economy transformation is steadily spreading across the periphery of the region. At the same time recreational activities are followed by the degradation of rural economy in the most remote rural areas of Kyiv region.

**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 in Kyiv region 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.

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.

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## **ОЦІНКА РІВНЯ ОРГАНІЗАЦІЙНО-ЕКОНОМІЧНОЇ СИСТЕМИ РОЗВИТКУ СІЛЬСЬКИХ ТЕРИТОРІЙ ПРИМІСЬКОЇ ЗОНИ**

### **Анотація**

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 та характерні види діяльності у певній галузі: переробна промисловість, сільське господарство, логістика і відпочинок.

**Ключові слова:** сільське населення, сільська територія, приміська зона, місто, кластеризація, урбанізація, трансформація.

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### **Аннотация**

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. Обосновано четыре основных направления развития сельских территорий пригородной зоны и характерные виды деятельности в определенной области: перерабатывающая промышленность, сельское хозяйство, логистика и отдых.

**Ключевые слова:** сельское население, сельская территория, пригородная зона, город, кластеризация, урбанизация, трансформация.