Agglomeration as a mechanism for ensuring sustainable and balanced development of territories

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Abstract. The article is devoted to the study of the development of agglomeration processes in the subject of the Russian Federation. The research methodology is based on the theoretical principles of strategic management, regional, municipal and spatial economics. This study of agglomeration processes in a subject of the Russian Federation is based on a comprehensive analysis of legislative documents, statistical reporting data, texts of strategies for the socio-economic development of municipalities by using a combination of methods: logical, dialectical, and also causal. The theoretical foundations of the relevance of the formation and development of agglomerations are analyzed. The results of the study of agglomeration processes in the Sverdlovsk Oblast are presented; conclusions are drawn about the prevailing trends in socio-economic and spatial development. The conclusion is made about the need for competent, controlled development of agglomerations in order to ensure sustainable and balanced economic and spatial development of the region. The article is aimed at scientists-researchers, practitioners, including state and municipal officials involved in managing the development of territories and other interested parties.

1 Introduction

Currently, in the process of scientific research in many countries, interregional and intermunicipal cooperation arouse interest. Of special interest is the development of agglomerations, which are considered along with the largest cities as drivers of economic growth in systems of spatial development. In particular, researchers emphasize the importance of inter-municipal cooperation as one of the mechanisms for managing urban agglomerations [1]. A fundamentally important condition for the development of agglomeration processes is a clear understanding by the authorities of all management levels of the long-term prospects for the socio-economic and spatial development of the country as a whole, as well as its individual regions, municipalities and other territories [2].

For the first time, the concept of urban agglomeration was introduced into the Russian scientific community by P.I. Dubrovin [3]. Currently, an increasing number of subjects of the Russian Federation define agglomeration processes as promising when developing their

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own strategic planning documents. Similar tendencies are inherent in agglomeration processes in foreign countries [4, 5].

2 Methods and types of the Earth's remote sensing

It is believed that the development of agglomeration processes and inter-municipal cooperation increase the efficiency of the provision of many state and municipal services and allow more efficient use of available resources [6-68]. Various authors prove the importance of agglomeration processes for sustainable and balanced development of territories [9-11].

This study of agglomeration processes in a subject of the Russian Federation is based on a comprehensive analysis of existing regulatory documents, data from the official statistical reporting of Sverdlovskstat, and approved editions of strategies for the socio-economic development of municipalities located on the territory of the Sverdlovsk region, by using a combination of methods: logical, dialectical, and also causal.

3 Analysis of the main ERS data sources for the DEM development

By now, various subjects of the Russian Federation have their own established experience in the formation and development of agglomerations. Let us turn to the analysis of agglomeration processes in the Sverdlovsk Oblast.

The Strategy of Socio-Economic Development of the Sverdlovsk Oblast for 2016-2030, within the framework of the priority "Ensuring the balanced development of the territory of the Sverdlovsk Oblast", provides for the implementation of three strategic projects, one way or another, providing for the development of agglomeration relations - "Ekaterinburg is a global city", "Management of agglomeration processes", and "City strategies". It should be noted that all these projects are being successfully implemented to date.

The largest agglomeration located on the territory of the Sverdlovsk Oblast is Ekaterinburg. The administration of the city of Ekaterinburg and representatives of the city community have formulated a strategic vision, one of the components of which is that Ekaterinburg is positioned as the centre of the Ekaterinburg agglomeration - one of the largest agglomerations in Russia. It is also noted that the Ekaterinburg agglomeration was formed over the years in a natural way, due to the historically established socio-economic, cultural, recreational, and transport links between the city-centre and satellite cities. The processes of further development of the agglomeration are natural and objective.

Let us turn to the substantiation of the need for the formation and development of agglomerations on the example of the Ekaterinburg agglomeration. As of 2020, the following municipalities are taken into account as part of the Ekaterinburg agglomeration: Aramil Urban District (hereinafter - UD), Beloyarsky UD, Berezhovsky UD, Verkhneye Dubrovo UD, Verkhnyaya Pyshma UD, Degtyarsk UD, Ekaterinburg city municipal entity, Zarechny UD, Pervouralsk, Polevskoy UD, Revda UD, Sredneuralsk UD, Sysertsky UD, and municipal formation "Uralsky settlement". Table 1 presents the results of calculating the values of the main indicators of the socio-economic development of Ekaterinburg, the Ekaterinburg urban agglomeration (excluding the values of indicators for the municipality "Uralsky settlement", since it is not provided by the Office of the Federal State Statistics Service for the Sverdlovsk Oblast and the Kurgan Oblast (Sverdlovskstat)) and the Sverdlovsk Oblast.

Table 1. Key indicators of socio-economic development of Ekaterinburg, Ekaterinburg Agglomeration and Sverdlovsk Oblast, 2015 - 2019

Indicators	Population, thousand people by the end of the year	Average number of employees, thousand people	Birth rate, thousand people	Mortality, thousand people	Housing stock, mln.sq.m.	Investments, billion rubles	Housing commissioned, thousand square	Retail turnover, billion rubles
City of Ekaterinburg (E)	1526.4	458.2	17.7	16.4	39.6	177.6	1344.2	835.5
Ekaterinburg Urban Agglomeration (EUA)	2155.4	596.3	24.9	25.0	58.7	207.1	1904.3	916.9
Sverdlovsk Oblast (SO)	4315.7	1120.8	42.7	52.9	114.8	304.3	2414.6	1197.0
Share of E in the EUA,% (2019)	70.8	76.8	71.0	65.3	67.5	85.8	70.6	91.1
Share of E in the EUA,% (2015)	70.1	76.1	71.3	64.3	64.3	87.8	70.1	96.0
Change in the share of E in the EUA (2019-2015)	0.7	0.8	-0.3	1.1	3.2	-2.0	0.5	-4.9
Share of E in SO,% (2019)	35.4	40.9	41.5	30.9	34.5	58.4	55.7	69.8
Share of E in SO,% (2015)	34.1	38.9	37.3	26.8	33.5	42.7	48.3	70.1
Change in the share of E in SO (2019-2015)	1.2	2.0	4.2	4.1	1.0	15.6	7.4	-0.3
Share of EUA in SO,% (2019)	49.9	53.2	58.5	47.3	51.2	68.0	78.9	76.6
Share of EUA in SO,% (2015)	48.7	51.2	52.3	41.7	49.0	48.7	68.9	73.0
Change in the share of EUA in SO (2019-2015)	1.3	2.0	6.2	5.6	2.2	19.4	9.9	3.6

The data in Table 1 clearly demonstrate the following trends in socio-economic and spatial development.

First, the high importance of Ekaterinburg within the Ekaterinburg Agglomeration. It should be noted that in recent years, the importance of Ekaterinburg within the Ekaterinburg Agglomeration has been increasing; a decrease was recorded only in investment and retail trade turnover. This trend is certainly not positive. It is necessary to strengthen the importance of all municipalities within the agglomeration, that is, the redistribution of strategic specializations of territories and "centres" of economic activity (positive impulses of socio-economic development), etc.

Secondly, the high share of Ekaterinburg in the economy of the Sverdlovsk Oblast. Moreover, the importance of Ekaterinburg for all the studied indicators of socio-economic development has increased, with the exception of the share of retail trade turnover. This trend can be explained, among other things, by the deterioration of some processes of socio-economic development in the municipalities of the Sverdlovsk Oblast. A similar study substantiating the importance of agglomeration processes for a balanced and

sustainable socio-economic and spatial development of the Sverdlovsk Oblast was carried out by the author based on actual statistical data for 2015 [12].

Third, the high and growing share of the Ekaterinburg Agglomeration in the economy of the Sverdlovsk Oblast. The share of the Ekaterinburg Agglomeration significantly exceeds the share of Ekaterinburg in the economy of the Sverdlovsk Oblast. Undoubtedly, the Ekaterinburg Agglomeration is one of the main ones in creating a supporting framework for socio-economic development of both the Sverdlovsk Oblast and the Ural Federal District; it should not become an "economic funnel" leading to the formation of an "economic desert" near Ekaterinburg.

It should be taken into account that the agglomeration acts as a factor of sustainable and balanced socio-economic and spatial development of the territories of the subject of the Russian Federation (region). Understanding this situation and the correct dialogue between the heads of local self-government bodies led to the fact that in November 2020, 14 municipalities of the Sverdlovsk Oblast, guided by mutual interest in the economic development of each municipal formation separately and the Ekaterinburg Urban Agglomeration as a whole, entered into an agreement on cooperation. Municipalities have agreed to combine their efforts in order to obtain economic effects through the implementation of intermunicipal (agglomeration) projects for infrastructure development and housing construction, the list of which is formed within the framework of national, federal and regional projects, strategic documents of the Ekaterinburg Urban Agglomeration and municipalities included in its structure.

4 Conclusions

In conclusion of this article, I would like to note that in order to ensure the spatial balance of the Sverdlovsk Oblast, competent and regulated development of agglomerations is necessary. The strategic planning documents of the municipality "City of Ekaterinburg" clearly state that a special role in the further development of Ekaterinburg and neighboring cities is assigned to improving the mechanisms of inter-municipal and inter-agglomeration cooperation, which is necessary for the exchange of experience in urban development, the development of effective ways to solve the problems of municipalities, and the formation of a coordinated policy urban development within the agglomeration to increase the total economic potential of all municipalities located within the agglomeration. The principles of partnership, cooperation, interaction, etc. should also be incorporated during the formation of other agglomerations, since their implementation helps to achieve more significant results in socio-economic development for all municipalities included in the agglomeration in a shorter period of time.

It is obvious that the processes of agglomeration will actively develop in the future both in the Russian Federation and in the world community. It is necessary to clearly understand what urban agglomerations are, for what purpose they are created, how to manage them, and how to gain the maximum benefit from the processes of their formation and functioning for the development of both the economy and society. One of the results of the development of agglomerations will be the inevitable transformation of the spatial organization of economic activity on the territory of the subjects of the Russian Federation, ensuring their sustainable and balanced socio-economic and spatial development. It is necessary to form a clear strategic vision of the priorities of agglomeration development and to improve them.

Acknowledgements

The reported study was funded by RFBR, project number 20-010-00824 "Incremental approach to the formation and implementation of socio-economic development strategies for the Russian Federation regions of different hierarchical levels: uniform rules of strategizing".

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