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OUTLINES OF THE THEORY OF URBAN AGGLOMERATIONS' SELF-DEVELOPMENT¹

This paper discusses new trends in urban centers in Russia. It is noted that the interest of scientists to the problem has increased as urban agglomerations were declared regional areas of priority development.

The author gives different interpretations of the content of the concept of «urban agglomeration», which are formulated in the context of different scientific approaches and scientific schools. It is emphasized that the city agglomeration as a special form of reality can be studied in the coordinates of a systemic paradigm. The basic axiomatic features that allow identifying the metropolitan area as a complex system are presented and disclosed.

The conclusion was made that a self-developing urban agglomeration is a special type of actively operating territorial unit in which the actors of the local community are able to mobilize local resources by themselves (and, in particular, the human capital) to change the living environment.

The paper emphasizes the need to regulate the development of urban agglomerations and gives examples of two basic models of urban agglomerations management.

Keywords: theory, system, self-development, urban agglomeration, topological properties, management of urban agglomeration

The establishment and rapid development of urban centers can be linked quite tightly with the new time of development of society, where increasing heterogeneity of economic space and increasing specialization of individual parts in the performance of certain functions, the speed of movement increases by ten times, socio-economic processes are activated, accelerated and compressed in time and space.

However, the problem of urban agglomerations is one of those that require specific evidence not only for its purely scientific (in other words, academic), but the scientific and practical significance.

Although metropolitan areas are studied since the early 1960s in our country and many works have been published on this subject, but a new surge of interest of research scientists, experts and public officials to the problem of metropolitan areas occurred in the period after 2007, when the Ministry of Regional Development of the Russian Federation

stated that the major metropolitan areas with the highest quality of population and developing innovative and educational infrastructure should be the regional areas of priority development and a part of the long-term strategy for the development of Russia [2].

The Concept of long-term socio-economic development of the Russian Federation until 2020 (the «Strategy — 2020») states that the metropolitan areas are considered by federal authorities as elements of the strategic development of the country to enhance the effectiveness of the points and centers of growth. «Strategy — 2020» refers to such agglomerations as Moscow, St. Petersburg, southern parts of Rostov and Krasnodar regions, the Urals (Yekaterinburg and Chelyabinsk), Krasnoyarsk, Irkutsk and Khabarovsk as well as Vladivostok [1].

Moreover, an intriguing idea sounded in the central media that the 20 largest urban agglomerations of the country should be assigned the status of the subjects of the Russian Federation, which can replace current subjects of the Russian Federation [16].

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A number of famous scientists — city planners propose to consider the urban agglomeration as the main chain of the resettlement of the country, the main unit of the strategic account, planning and management [15, p.37].

And those measures put forward by scientists and specialists to strengthen the position of metropolitan areas in the economic area of the country can be understood: the leading role of metropolitan areas (and especially of their nuclei — the largest cities and towns) manifested itself in a period of economic growth in the 2000s and in times of crisis 2008–2009 and in the current years of economic growth.

Contractions of the economic, financial and service functions to the urban agglomerations occurred in the background of degradation of most small towns (especially monotowns) and peripheral cities outside agglomerations.

Metropolitan areas in general are consistent with the conditions of our country with its territorial scope, variety of natural, economic, social and demographic conditions and at deliberate regional policy could act as the means of solving the acute and large problems.

It is worth recalling the content of the concept of «urban agglomeration».

We can give an example of one of the definitions of «urban agglomeration», most concise and first in the domestic literature — it is a group (cluster) of closely spaced cities, towns and other settlements, united into a single holistic formation with close and intense labour, cultural, domestic and industrial ties [8, p.34].

Among the capacious definitions of the term «urban agglomeration», the following ones can be distinguished:

Urban agglomeration is a system of geographically and territorially contiguous and economically interconnected localities combined (integrated) with:

- a) diverse stable employment, cultural, domestic and industrial relations;
- b) general technical, market, social and other infrastructure;
- c) sharing of resources and a high degree of territorial concentration of various industries, scientific and educational institutions, and characterized by a high population density [3, p. 304].

Taking into account that the urban agglomeration is a rather complex territorial entity that requires various special methods of investigation, in

domestic and foreign literature it is studied in the context of different scientific approaches and scientific schools. In particular, it is characterized as:

- 1) a phenomenal occurrence in social development;
- 2) a form of modern urbanization;
- 3) an integrated cell (or taxonomic unit) of the urbanized environment;
- 4) the most complex territorial socio-economic organism;
- 5) a polystructural national economic complex;
- 6) an area of deeply changed nature;
- 7) a base carcass of a country's resettlement [5, 6, 11, 12, 13, 14, 17, 18, 22].

However, an urban agglomeration as a special form of reality can be studied in the context of a systemic paradigm. That allows us to connect the empirical validity of the studied complex social object with the theoretical depth and methodological constructivity [9, 10, 21].

Therefore, researchers of the metropolitan area, working within the systemic paradigm, should:

- a) highlight the identifying characteristics of agglomeration (i. e., the main differences from the other object);
- b) formulate laws of its evolution, linking them with the historical process in which it arose;
- c) explain the reasons for the profound changes and transformations at different stages;
- d) propose their own methods of analysis and methodology.

Based on the conceptual setting of a systemic paradigm, we can distinguish the following basic axiomatic features (terms), allowing to identify the metropolitan area as a system.

1. Realexistence — is a fundamental characteristic of an agglomeration as a system. City agglomeration is seen as a public (social) reality, which exists in time and space with fixed boundaries and a set of different qualities, functions, structures, processes and phenomena.

2. Variety of objects (components) — an urban agglomeration is a special world, consisting of a number of objects and structures that form the agglomeration, organized and somehow correlated with each other.

3. Unity, means that there are numerous multi-layer interaction, stable deep connections and relationships that give rise to the so-called end effect is additive in the local area between the relatively autonomous individual objects (structures) and the metropolitan area.

4. Sufficiency, suggesting that the agglomeration as a function of the system must be a sufficient number of objects with different characteristics (critical mass) and a variety of sources of local resources (functional space), without which there is no abrupt transition aggregate (group) of settlements in a qualitatively new formation — the urban agglomeration.

5. Long-term sustainability, consists in the fact that the urban agglomeration, a rich variety of communication systems and infrastructure, providing reproduction processes, initiating the development of various sectors of the economy, concentrating a large number of people able to maintain a certain mode of operation in spite of acting on the impulses and external disturbances. It retains the structure of the economy, planning, external appearance, social being, the behavior of the inhabitants of the elements, even large formations of previous epochs of social development.

6. Proper nonclosure, the openness of urban agglomeration. It actively communicates with the external environment substances, energy, capital and people. It is properly the external environment (economic, institutional, socio-political, social, etc.) that initiates (causes) and promotes the highest and best use of various potential inherent in the metropolitan area as a system.

The existing metropolitan area can be rightfully attributed to the type of self-developing regional socio-economic systems, which topological properties were largely uncovered in recent years by scientists of the Institute of Economics, Ural Branch of the Russian Academy of Sciences [4, 7, 20].

Taking into account the various interpretations of the concept of «territorial self-developing systems», we offer the following definition of the concept: Self-developing urban agglomeration — is the ability of the urban system to achieve sustainable socio-oriented and coordinated functioning and development of the metropolitan area as a whole and its individual components, in particular through existing in-house capacity, sufficient own resources, based on the joint action of active industrial, governmental and social structures which are localized in space agglomeration.

Based on this interpretation of the agglomeration as a self-developing system and to the already stated above axiomatic features of agglomeration, we can add new ones. Among them are:

1) objectivity of functioning and the development of urban agglomerations, which consists of

the fact that the processes of formation and the form of locally-economic space is at a certain historical period naturally and inevitably in the presence of the premises, and not as a result of the adoption and implementation of specific administrative (bureaucratic) decisions. They are formed in the local area of the regions where there is the kernel in the form of large cities, there are active centripetal forces, there are intense urbanization and integration processes, leading eventually to the functional and spatial cohesion of geographically adjacent and mutually interacting settlements;

2) self-sufficiency of the required material, financial, labour, investment, intellectual and other internal resources for the aggregate operation and development, as well as production, infrastructure, territorial and other premises, capable of providing reproduction processes in the space of agglomeration, making it possible to rearrange under the influence of internal and external impulses and powers to adequately respond to the positive and negative environmental challenges, to move from one state to a new, more mature state of quality.

Urban agglomeration as a holistic formation which is translating the meaning and content of the urbanizational life forms has the ability to save, store and reproduce the socio-cultural and intellectual potential of the society. Taking into account that the primary need for the operation and development of the urban agglomeration of resources (including human), should generally be made in the metropolitan area, a resource-efficient policy should be implemented. Therefore, in the extent of agglomeration there should be, for example, not only cost-conscious usage of energy resources, but also active savings of the human resources (i. e., people). To achieve that, we should strive to maintain a healthy environment, to create a comfortable environment for life, work and leisure of those who live in the metropolitan area.

In the context of self-sufficiency in the metropolitan area, there is a situation where limited local resources and capabilities cannot be reduced to the solution of problems of individual type and unrelated to each other. Even one problem should have a few measurements and possible solutions, including economic, spatial, institutional, demographic and other aspects.

Self-developing urban agglomeration is an active-performing formation, in which actors of the local community (individuals, businesses and groups) tend, on the one hand, to self-actualization,

self-definition and implementation of their various ideas, interests and aspirations, and on the other hand, they are able to mobilize local resources to change the living environment.

Urban agglomeration provides compression of the economic space on the local level due to the density of contacts, communicational proximity of decision-making centers and more efficient usage of time and activation of the ever-increasing economic and other ties, becoming isolated within the borders of relatively small spaces.

It is obvious that there is no alternative to Russia's development strategy on the innovational scenario, which initially involves the creation of the centers (nuclei) of innovative development on the territory of the country.

In Russia, properly the urban agglomeration with their centers — large cities — are the most important «translators» of innovations. Competition of the cities for investments and quality of human capital and the growing consumer demand for innovations will continue to encourage the influx of Russian and foreign investments into the sector of services, import-substituting industries and the newest cities — centers of agglomeration.

While the operation of an urban agglomeration is a self-developing process, it does not mean that the relevant authorities should not interfere into this process of objective changes.

A few basic models of management of urban agglomerations are used in the international practice.

1. Creation of a united municipal entity. Municipalities that had existed previously in the metropolitan area are being removed and, instead, a united municipal entity that covers the whole territory of the metropolitan area is being created, within which some territorial division may persist, concur-

ring or dissenting on its borders with the former one. Such territories within the metropolitan area do not have any traits of an independent municipal entity — an elected government (although some of its traits can be saved) and the independence of the budget.

2. Two-level management system of an agglomeration, when the upper level is created with a single municipality or treaty-making distribution of powers, and smaller municipal entities are situated on the lower level. Coordination and management form of impact on the development of the metropolitan area comes not from the beginnings of administrative subordination and obedience, but is based on the principles of harmonization, the search for compromise solutions and the achievement of synchronization of actions that could be quickly rebuilt in accordance with the changes currently taking place.

This model is most consistent with the recommendations of program documents of the UN Human Settlements Programme, UN-HABITAT, in particular, the «Istanbul Declaration on Human Settlements» and «Habitat Agenda», which are supposed to consider the problems of human settlements in complex, in a systemic dependence, taking into account the economic, political, social, environmental, ethical and spiritual perspectives, basing on the principles of partnership, equality, solidarity, human dignity, respect and cooperation.

As a result, it can be stated that the agglomeration processes are not stopped; they will be actively developed in the future. At the present stage, it is necessary to be clearly aware of what constitutes today's urban centers, the purpose for which they are formed, how they operate and how to extract the maximum benefit for the economy, society and each individual from the process of their development.

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