Historical settlement systems as strategic vector of Russian Federation development

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Abstract. Nowadays there is the argued issue of strategic development of the country that cannot be possible without taking into account the aspect of preservation of historical and cultural heritage on its territory. The historical heritage is represented not only by the single objects as well as by the whole settlement systems. We are talking about the fortification systems of strengthening which has been forming since the 15th century. Their peculiarity lies in the linear structure when many settlements are combined into a single system by the transport communication with a length more than 200 km. There is the problem not only of its preservation, but also of the development as a part of the country's structure and strategic and economic potential. The paper presents a research methodology, recommendations for taking into account the country's development strategy, as well as the proposals for the development of linear settlement systems to ensure the country’s sustainable development.

1. Introduction
One of the global problems of territorial and spatial development of the Russian Federation is the absence of the Unite Development the Russia Federation Strategy for long perspective. There is existing Project on strategic planning in the Russian Federation until 2030", but it does not meet the approval of specialists because of many censorious remarks. One of the most problematic points of the strategy is the issue of preservation and recognition of historical areas and historical settlement systems. These territories are the innovative potential of the regions and the country that isn’t protected nowadays in proper way. That’s why taking in the account of the issue of preservation of urban heritage becomes the most relevant direction of theoretical and applied research addressed on highlighting regularities and principles to establish value of this territories and their significance in city on the basis of a number of parameters and quality indicators.

The area of "Guard lines" which occupies significant territory is the example of such territory with strong historical value. "Guard lines" includes the number of cities, towns and rural areas with elements of historical fortification buildings and their complexes. They are the holistic object of urban art, an example of the systematic formation of defensive and residential urban structure, representing a linear system of settlement on the border of the territory [1,2].

The emergence of the first theoretical concepts of linear cities is obliged to the development of transport systems especially arterial road network. Rejecting the forms of a compact city, the Spanish engineer and philosopher A. Soria and Mata put forward a new, radically different linear form of the settlement. The further development of the linear city concept was facilitated by the rapid growth of
cities, their expansion to agricultural land. This problem was dealt with by specialists of urban planners, geographers, philosophers of XIX-XX centuries [2,3].

There is the number of Russian researches who dealt with the issue of the fortification systems in Russia. This topic was the subject of the research in works of such Russian authors as D. Bagaley, V. G. Sheveleva, F. Laskowski, I. D. Belyaev, A. I. Yakovlev, V. N., Storozheva, A. E. Leontyeva, S. R. Muratova, E. A. Gyovai, E. Shevchenko and many other researchers. The fact is that all researches were conducted more than ten years ago and nowadays we can keep the interest to this topic again. Also there a lot of researchers in this area all over the world [4 -11] specialized on their own countries and their historical and cultural heritage. Relevant study in this area is to research the process of formation of the integrated settlement system. It becomes the answer to the complex strategic task of great National importance. Its solution will influence on the possibility of existing settlement development and assimilation of new lands to provide the security of the population and the country itself.

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2. Methods
The purpose of the research is to determine the mechanism for identification the borders of historical urban formations such as integral linear settlement systems. The study solves the following tasks:

- To identify existing trends and approaches to the identification of the borders of historical settlement systems’
- To substantiate a hypothetical model of the existing linear system of settlement on the example of a fragment of the fortification line;
- To propose the method to establishing the boundaries of the territories of historical settlement, with the fixation of the currently existing settlements;
- To develop the methodology for assessing the historical and cultural value of settlements in order to fix them as historical settlements and further account for the development of documents of territorial planning and demonstration of investment attractiveness of territories and settlements.

The research was based on the long-term research of archival data on the development of Russian territories, as well as on the methods of system analysis according to the basic principles to ensure the sustainable development of historical areas as an integral part of the country with a single connection. The analysis allowed us to identify the main external and internal factors that determine the need for the development of a single strategy presented in the table 1.

**Table 1. Challenges to the spatial development of the country.**

| External challenges                                                                 | Internal challenges                                           |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Global changes in the territorial structure of existing settlement systems;          | Persistent interregional differences in socio-economic and cultural development of different regions; |
| Trends to the new process of human resettlement;                                     | Low level development or even non-existing urban infrastructure and engineering supply; |
| Change in the location of world centers;                                             | of the territories;                                           |
| Increasing population in a number of countries;                                      | Mass stagnation of settlements as a result of liquidation of city-forming enterprises and, as a result, the concentration of population and economic activity in the largest cities |
| Lack of natural resources: land suitable for cultivation and agricultural use, clear drinking water, etc.; | Actual lack of stable population growth, and as a result, the steady aging and reduction of the share of the economically active part; |
| New trend in urban planning approaches.                                              | Growth of mass ignorance as a result of total disregard for the importance of cultural processes in the educational development of Russian territories |
External challenges address to concomitant problem of the world economy and the transition to a new technological approach. Russia as a part of this world should strive for the modern level of developed countries and at the same time be able to protect its borders. Internal challenges address to internal problems in social, politic, cultural and economic life that requires the cohesion of its territory.

The priority areas for their historical value preservation and important in geostrategic aspect are:

- Far East,
- Northern Caucasus,
- Kaliningrad region,
- Republic of Crimea and city of Sevastopol,
- Arctic zone of the Russian Federation.

The analysis of the territorial and spatial organization of this territories revealed that a significant part of the Russian regions are not classified on their geostrategic importance, does not have confirmed historical value and are currently in a state of stagnation.

The study was aimed at the analysis of internal challenges that have a direct impact on the territorial and spatial development of Russia. The steps of the methodology were:

1. Retrospective analysis of a settlement system development, since the time when it has acquired a formal structure. That period is considered to be the time of origin of the national urban culture.
2. Determination of the territory boundaries with the preserved historical planning structure;
3. Identification of the valuable components of the historical settlement, characterized by indicators such as urban value and authenticity of historical buildings;
4. Confirmation of determined boundary of the historical building line;
5. Calculation of main parameters of the territory, which showed characteristic of historical settlements; Formation of the state register list of cultural heritage objects and their inclusion in the Unite Development the Russia Federation Strategy.

The research is founded on economic mathematical modelling of population placement focuses, models of inter-district economic relations and the optimal allocation of production. However, economic and mathematical models of population focuses location cannot be considered correct, if these models do not take into account the historical centres of settlement, the relationship between these focuses, the conditions of their formation and the causes of degradation or disappearance.

Historical settlement system was formed or changed depending on external and internal transformations under the influence changes of society projects. Structural changes of the settlement system led to the polyehromicity of this system and the diversity of its planning settlement structures.

3. Implementation

The object of the study was the linear structure of the settlements located in the south of European part of Russian Federation. This line communication unites such towns as Putivl – Orel – Shack – Alatyr and form the group of historical cities that has begun to form from the time of the single power as border cities. Studies show that the development of such systems was planned according to a certain plan of formation of military-economic system of urban settlement and further this has served the basis for the development of a fundamentally new method of urban development.

If we consider a typical scheme of the linear structure formation from the point of view of its geographical location there is the guard line on the front and rear or first and second lines. Both guard lines form a security corridor for development of existing settlements and the occurrence of new ones. The width of this corridor ranged from 100 to 240 km or more, and depended on the geographical and landscape features of the terrain and hydrographic network. Both lines limit a new type of settlement system, the characteristic feature of which is the unification of all settlements by the road protected from a possible attack (Figure 1).
There is the range of problems considering development of this town’s folding in line:
1. Preservation and development of existing settlements and preservation of their historical fortification heritage;
2. Recovery of the lost historical heritage in settlement where it has not been preserved;
3. Development of rural areas between large settlements to restore the linear corridor and to give the second life of historical heritage.

Figure 1. Reconstruction of the settlement system.

All free territories located along this linear road corridor are the most attractive to be developed. They already have the conditions of transport servicing and strong links with adjacent settlements. Also, these territories have the potential in touristic aspect. These aspects form the conditions for sustainable development of these rural areas both for residential and commercial usage.

Our research offers the proposal how to solve this problem and to develop these free territories between existing settlements. It is a reasonable innovative solution for the rational distribution of
settlements and population in the areas located between large settlements along the linear corridor.
This concept has been development more than 20 year ago but now receives the new life as a “ECOTON Concept”. It lies in the idea of formation of the new settlements which are formed in the places of rupture of the linear structure and recreate a closed line (Figure 2).

The proposed structure of settlement along the linear transport corridor corresponds to the principles of sustainable development of the country and sets the vector of development of its territorial and spatial structure.

The use of sections to divide the text of the paper is optional and left as a decision for the author. Where the author wishes to divide the paper into sections the formatting shown in table 2 should be used.

4. Discussion

The question how to preserve the urban historical heritage of countries has been relevant throughout the world. Each country strives to sustain its historical and cultural territories and single objects and to pass the memory to the ancestors. This idea underlies the concept of sustainable development of territories specifically discussed among researchers as the question how we cannot just save, but how to use this heritage for practical purposes for the benefit of the city. These spatial objects should be the part of the urban structure, composition and canvas of the settlement. Strategic aim is to get the economic benefits for settlement that have no other income sources except tourism. The article raises the important question how to use this heritage in the development of the urban territories for the formation of their planning structure. The issue is particularly important for Russia, which has the largest area of settlement system. The novelty of the study is to develop the method and make proposals for determining the strategic vector of development of the country, based on the historically developed linear structure of fortification cities. This method will take into account the spatial, transport, tourism, cultural and even defense aspects that will determine the vector of development of the country.

5. Conclusions

- Nowadays it is vitally important for RF to study the question how to form historical settlement system because it is a part of the hole Strategy of its long-term spatial development in the already populated areas that defines the integrity and solidity of the Russian Federation.
- It is needed to determine the procedure how to define our historical heritage and its borders and the way how we can use is according to main principles of sustainable urban development.
- The results of the research allow to preserve the existing system of historical settlement and to develop it by the method of urban reconstruction to ensure the socio-economic climate, to slow down the depopulation in this region and to define new or to resume forgotten city-forming factors.

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