The future of residential neighborhoods 1960-80: transformation of the architectural and planning structure. Results of the international research project "Unloved heritage" of the socialist city 1960-70

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Abstract. The results of an international research project to assess the urban development potential of residential neighborhoods in socialist cities, carried out by a consortium of universities, are presented. A differentiated analysis of the experience of transformation of microdistricts in different countries revealed potential opportunities for development and renewal in various aspects: functional and planning structure, open spaces, mobility systems, identity, and public spaces. The project offers strategies for the transformation of microdistricts, as well as defines the prospects for a research project at the next stage of cooperation between universities and directions for integrating the main provisions of the project into the educational programs of architectural universities, as an important project task of various urban planning scales.

Microdistricts of typical development make up a significant urban heritage in modern cities and represent the most important resource for their development in the future. In the structure of some cities, microdistricts of typical development make up the predominant part of the total housing stock and occupy a dominant position in the spatial appearance of the city. The dynamics of development of residential neighborhoods since their development has provided living conditions for most of the population of cities, while at the same time creating tools for their urban adaptation in the changed socio-economic, functional and planning conditions as prospects for the transformation of neighborhoods.

New cities built in the second half of the twentieth century in various regions of the country consist of three-quarters of panel residential development.

The experience of upgrading microdistricts in order to develop a sustainable urban environment is in the sphere of interests and responsibility of the entire urban community due to changes in social, economic, functional and technical conditions, and microdistricts of mass panel development need not only to study the experience and methods of their transformation. European experience and pragmatic estimates of the reconstruction of panel buildings accounted for a third of the amount required for the demolition and construction of new houses, while reducing operating costs. [1]

The experts of the research project named the key questions [2]:

What potential does a microdistrict present to a modern city as an emotional-spatial continuum?

What structural features characterize the space of residential development of microdistricts that were excluded during modernization (location, typology of buildings, structure of owners, etc.)?
What are the basic urban planning elements, their changes make up the spatial conditions for the development of residential areas?

What technologies are relevant in modern urban planning practice to solve the problem of improving the comfort of the residential environment of microdistricts?

To what extent do the problems of microdistricts in different countries coincide in the implementation of national and regional programs for the modernization of panel development areas? What are their specifics?

Large-panel construction continued from 1959 to 1985, accounting for about 10% of the total housing stock of the country, the technological foundations of which were created by more than 400 factories of precast concrete structures with modeling of parts on landfill sites. [3] In the vast majority of regions of Russia and the Union republics, where the start of mass construction was delayed by a dozen or more years from the capital cities, it is the issues of transformation of panel development areas that become particularly relevant. Despite the fact that typical residential development had uniform production standards, urban planning practice in each city was based on planning templates and local landscape and climatic conditions in the development of large development projects. Mostly peripheral placement of residential neighborhoods original spatial models of residential development were created on the basis of connections with open adjacent landscapes, layout and placement of service objects, which allow accentuating the space of the neighborhood.

The research project confirmed that the quarterly structure of microdistricts is not exclusively an urban heritage of the past, but a modern urban planning practice and a practice of the future. The results of the research project showed significant differences in the current situation in the state and prospects for the development of typical residential development in different countries. The social aspect of the
differences is that since the 1990s in Germany, the demand for housing in areas of typical development has sharply decreased, while in Russia it has even increased and the majority of the population of the microdistrict has become homeowners. [4]
Identifying the identity of a microdistrict and taking into account the urban context are the most important aspects of working on the reconstruction of microdistricts. In the studied examples, techniques for strengthening identity are highlighted: a) preservation of wall paintings and historical elements of landscaping (Dresden Gorbitz); b) strengthening the role of spatial accents, key elements of the existing layout (Halle-Neustadt); C) conceptual scenario of art objects of the historical period of the GDR (Halle-Neustadt); d) inclusion of open landscapes and landscaping (Halle-Silberhöhe) and others. In cases where the identity is not sufficiently expressed, it is reinforced by special techniques: a) assigning names to neighborhoods (Berlin Fennpfuhl); b) creating a specific artistic design (Berlin Fennpfuhl, Dresden Gorbitz); C) constructing legends and creating art objects that Express these meanings: wooden sculptures, monuments, installations, and others (Halle-Silberhöhe); d) creating a new quality of the environment in place of degraded (Dresden Prohlis) or focusing on a new quality courtyard spaces (Berlin-Hellersdorf / Marzahn), etc. (Figure 3). Issues of identity and social problems, cultural perspectives will be considered at the next stage; how identification processes are spatially and morphologically manifested in large residential areas, and how they can be developed.

Transformation of open spaces and change (formation) of the landscape was carried out in the following directions: a) transformation of the space structure as a result of changing the balance between private and public spaces in the direction of increasing the area of private spaces adjacent to ground floor apartments (Dresden Gorbitz); b) increasing the area of children's play spaces and more intensive inclusion of recreation areas in the residential sector (Dresden Prohlis); C) increasing the area of green spaces by demolishing significant housing and service areas (Halle-Silberhöhe), combining pedestrian links with the idea of a "green city" (Halle-Silberhöhe); d) considering and forming the structure of open spaces (rather than buildings) as an urban ensemble (Halle-Silberhöhe) (Figure 4). New funding models for the design and maintenance of public spaces need to be developed; public-private partnerships, sponsorship concepts, and other ideas can help mitigate problems, but do not completely solve them. Appropriate rules and controls are necessary to ensure that public spaces remain under state control.

It is important to note that there was a change in the population structure of the microdistrict in order to move away from the homogeneous socio-demographic structure (Berlin-Hellersdorf / Marzahn). It should be noted that private ownership of apartments (just like in Russia and Ukraine) complicates the organizational side of complex reconstruction works (as, for example, the renovation process in the southern part of Halle-Neustadt is complicated by a large number of private apartment owners, who are very difficult to organize). The experience of reconstruction of houses without eviction of residents (Berlin-Hellersdorf / Marzahn) is very interesting. Transfer to Russia of the German experience on capital repairs and reconstruction of panel houses without eviction of residents (Berlin-Hellersdorf / Marzahn) is possible if: 1) if the "subject " is a territorial public self-government (TPS), Federal law of the Russian Federation No. 131-FZ of 06.10.2013 (ed. from 03.07.2016); 2) if such work is included in

Figure 3. Transformation of the spatial identity of microdistricts
the state program and is financed in a shared participation: a) the government of the Russian Federation-70 %, b) the regional budget-20 %, C) the local budget-10 %.

Increasing the importance of infrastructure objects concentrated in a local community center due to:
a) the location of playgrounds, adult recreation areas and additional green spaces on the pedestrian axis (Halle-Neustadt); b) increasing mobility due to the formation of an extensive system of pedestrian and Bicycle roads in the settlement structure (Halle-Neustadt); C) placing sports facilities within walking distance (Halle-Neustadt). In an era of increasing privatization and commercialization of urban spaces, the design of public spaces remains one of the most important responsibilities of departments and municipalities. In the current conditions of development of microdistricts, there is a polarization in the placement of service facilities, creating various potential for renewal, development, and improvement of the comfort of the residential environment. The potential for renewal and further development of public spaces exists at many levels, from the development of master plans to the setting of design standards to the development of licensing agreements and other measures.

The socio-spatial change is based on existing neighborhoods that form spatially compact groups of residential buildings, blocks, and blocks. Various tools for the reconstruction of microdistricts are based on the formation of socio-spatial housing complexes that provide comfort in the reconstructed territories. The comfort of courtyard spaces, which remains unchanged during reconstruction, is reduced when using superstructures and inserts. [5] But that is to be generated by using techniques of socio-spatial complexes increased rates of housing and service that gives you the opportunity to design a living environment with high urban value. For example, the spatial potential of the Central social activity in the major ilomo area is spatial planning integration, given the changing structure of the service, the configuration of living of different social groups.

Identifying the urban development potential of residential neighborhoods can play a valuable role in the quality of housing: their adaptability increases, making them suitable for designing residential environments while reducing the number of barriers and increasing the proportion of open spaces. They offer extensive, as well as a variety of housing options and living conditions that are interesting for different groups of people in the region.

The subject of the urban idea on which the planning of residential areas was based was, at least officially, innovative and experimental forms of housing. There is still little research on the transformation processes that have taken place in large residential complexes in recent decades between the idea and reality. Pre-built residential complexes have a specific character of urban planning (modernism) and architectural forms (industrialism). At the same time, industrial construction has its own logic and leads to certain rules for their transformation. Unlike historical urban layouts with city
blocks that clearly define private and public spaces, single buildings and vast open spaces organize urban structures of the post-war period and modern era. [6,7]

The urban concept of spaces that are more open and fluid is sometimes hindered or hindered by a clear hierarchy and spatial order. In addition, the original configuration in many areas has been partially lost due to new construction, additions to residential buildings, which are often built illegally, destroy the spatial structure. New construction of kiosks and functional buildings in inappropriate locations, plus garages and wild Parking lots in open spaces, are destroying the zoning and hierarchy of spaces - clarity and orientation are becoming increasingly difficult.

The need for additional buildings to meet the demand for various residential buildings and social infrastructure, shops, and jobs could be met if it were organized respectfully to the original layout. Although many of these areas have a high population density, open structures have untapped potential for further spatial densification, as there is still a lot of open open space. Compaction should be done in balance with the existing nature of the layout - it is extremely important to preserve the appearance and aeration of the area. Build new buildings, expand existing ones, and change the orientation of buildings only when they emphasize the block structure and fluidity of space. In this context, the provision of services such as shops, schools, kindergartens, and more. With the placement of new, even inter-district uses in the neighborhood, there is a chance to create a new profile for the neighborhood, strengthen its functional independence and thus reposition it in a broader urban context.

As part of the research, project "Unloved Heritage of the "Socialist City?" (2016-2019), structural features of residential neighborhoods were studied. The main focus was on highlighting the value and quality of areas built in the 1960s and 1970s, with the aim of identifying the urban development potential for their further transformation and renewal. [8]

The experience of transformation of microdistricts in various countries is considered and evaluated. The use of differentiated analyses, the potential of the rakhvitiya for renewal are defined in various aspects: development and open spatial structures, provision of various uses and systems mobility based On this, planning strategies have been developed to lay the foundations for a paradigm shift in the transformation process.

If the revival and reconstruction of historical city centers is given increased investment and political attention, however, there is a growing understanding of the tasks of updating neighborhoods built during the 1960s and 80s, where a much larger part of the population lives and resides than in the city centers. Hardly any topic is currently discussed as intensely in cities as housing. The city's attractiveness and the resulting steady increase in new residents have led to a shortage of new housing models. First of all, there is a shortage of affordable housing. Higher demand has led to the fact that tensions in the low-price segment of the housing market, in turn, initiates an increase in rents for low-and middle-income groups. The topic of building affordable housing is also intensively discussed in modern cities. [9]

The research project emphasizes that today there are not enough positive social projects that explore functional, spatial techniques for modernizing the typical development of microdistricts, forming the structure of the residential environment differentiated by the level of comfort, taking into account its design and urban planning characteristics. At the same time, their use makes it possible to achieve different degrees of socio-spatial integration in microdistricts. The research project considered spatial schemes of integration of service objects in the structure of a microdistrict, which allow optimizing their spatial development. With the expansion of modernization techniques, the share of housing with a higher level of comfort is growing. Based on the modeling of microdistricts, methods of development of the structure and area of housing stock, population and area of service facilities are studied, taking into account the processes of social integration, which make it possible to navigate the situation of reconstruction. [10]

The next stage of research is logically connected with the continuation of the research and is focused on identifying the urban heritage of very typical buildings: the task is to determine the value of the basic urban morphotypes of typical buildings and the future of modernized housing. The development of society and household lifestyles is becoming more diversified and this should be explored at a new stage in a diversified range of residential spaces [8].
The past stage of the research project, as well as the subsequent one, are aimed directly at young researchers – undergraduates, postgraduates and teachers who are not only active participants, but also "motors" of the research project. In addition, it will ensure that the level of knowledge achieved as a result of research is supported by all stakeholders. The University research project, accompanying program, seminars, parallel national design studios, research and publication give a new impetus and ideas for the next stage - modernization of panel buildings to all participants in the construction process: representatives of political and public circles, designers and businessmen.

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