CRISALIDE: Searching for Smart Solutions in Urban Development beyond the Political Slogans: a Case of Rostov-on-Don, Southern Russia

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1 ABSTRACT

Recently in Russia, a shift in a political discourse towards the innovative economy, new technologies and smart cities solutions is noticeable. There are several national programs and strategies that orient economic development to use innovations and digital technologies. However, those initiatives seem too focused on technological solutions and lack a comprehensive understanding of what smart development is. A missing component might be provided from the bottom level through the use of the place-based approach and implementation of smart planning tools responding to the wicked local problems. The paper explores opportunities provided by the current national policy in the Russian Federation and the local conditions of the city of Rostov-on-Don in Southern Russia for the implementation of the innovative decision-making support tool in urban planning. The findings demonstrate that the introduction of the innovative decision-making support tool corresponds to the current transformation processes happening in a contemporary Russian city, requests from the national level and, consequently, it can be replicated in a similar context.

Keywords: smart cities, smart planning, innovations, urban policy, DSS, Russia

2 INTRODUCTION

After the USSR dissolution, Russia has been following the transition trajectory from the administrative command economy to neoliberal market, and this way was accompanied by the shift in the perception of urban planning. The long period of socialist planned economy domination that finished by the system‘s collapse provoked a kind of “planning allergy“ at the beginning when the state tried to get rid of its past. That ‘no-planning’ period was based on a strong belief in the market‘s regulation ability and weakened the state’s role in that process. Then, step by step, with the necessity to organise economic activities, provide housing and services to the population, the state came back to the idea of the planning’s necessity, and now it reopens urban planning in new conditions. The unplanned period has been resulted in continuing extensive spatial development of cities and chaotic land use that provoked many planning issues, such as transport or infrastructural, which now requires wise responses.

Urban planning legislation in new Russian history was created from zero: during the Soviet period with the state as the only actor in this field and it did not need any regulations (GOLUBCHIKOV, 2004). The post-socialist transformations were linked to the introduction of private property and redistribution of power between territorial levels of governance. Enacted in 2004, the new Urban Planning Code became a starting point for the contemporary period of planning. The new Code somehow set limits for uncontrolled land use, but urban development for many years has been shaped mainly by the need for housing construction. Housing construction and provision were established amongst the national priorities and cities were pushed by the national and regional governments to ensure the availability of land and create conditions for the easier implementation of housing developers programs. Cities‘ and regions‘ success in implementation of the national housing policy has been measured through the number of square meters constructed annually and amount of housing in municipality expressed in square meters per capita with an average target indicator of about 30 square meters/capita. No quality characteristics among the requirements to housing have been introduced. Recently an important change in the state approach to urban development could be noticed: the national government started to slowly shift its focus from the quantitative to the qualitative categories. Still, square meters are amongst the national priorities, but several new state initiatives influencing urban development are presented, among which new housing strategy and two national priority projects – on comfortable urban environment and smart cities. The smart city concept became an important political slogan and the government announced the construction of 50 smart cities to 2025.

However, can Russian cities become really smart beyond the political slogans? Which preconditions and opportunities exist? As a famous Russian urbanist Vyacheslav Glazychev argued (2011), on the way to a

ISBN 978-3-9504173-6-4 (CD), 978-3-9504173-7-1 (print)
Editors: M. SCHRENK, V. V. POPOVICH, P. ZEILE, P. ELISEI, C.BEYER, J. RYSER

smart city, three conditions must be met: a real transition to a post-industrial economy, the formation of urban communities, and the intelligent construction of a smart territorial development policy, but there is not one of the three conditions in Russia.

The paper investigates the existing political context and socioeconomic development in terms of implementations of smart solutions in spatial planning in Rostov-on-Don, Southern Russia – a city, in which the „CRISALIDE: City Replicable and Integrated Smart Actions Leading Innovation to Develop Urban Economies" project will be implemented.

3 CHANGES IN NATIONAL DISCOURSE REGARDING URBAN DEVELOPMENT

The national housing policy in Russia remains the major factor that continues to shape urban spatial development. According to the Presidential Decree ‚On the national goals and strategic objectives of the development of the Russian Federation for the period up to 2024', the task is to reach the construction of 120 million square meters of housing per year by 2024. The housing policy in Russia for many years has been focusing on housing quantity that provoked significant urban sprawls and growth of vast monotonous areas of bad quality residential areas not provided with public spaces and facilities.

The first introduction of the qualitative requirements to housing appeared in 2017 in the new National Housing Strategy of the Russian Federation until 2025 (STRATEGY OF THE HOUSING SECTOR DEVELOPMENT), which was not officially approved. However, the document is important because for the first time it determines among the objectives of the Russian housing policy such qualitative characteristics, as, for example, apartments' composition and 'comfort urban environment'. It also presents new for Russia approaches to planning that should prevent continuing urban sprawl and stimulate construction within brownfields in urban cores. In the Strategy the Compact City concept was directly presented as the preferable way for urban development in the country, which could be considered innovative: all the previous strategies, programs and proposals indicated Russian vast land resources as the basis for the provision of affordable housing and promoted the inclusion of the surrounding green fields into the cities' border.

The second important initiative was an approval of the national project ‚Formation of a comfortable urban environment" within the National program „Housing and the urban environment'. The goal of the project is providing new standards for the urban environment, activation and encouragement of people's involvement in the process of urban development through the courtyards and local public spaces requalification with the priorities given to the existing public spaces. As the project operator JSC DOM.RF claims, the quality of urban environment should be based on the compact city model (JSC DOM.RF website), and its key criteria are a large choice of housing, safety, environmental friendliness, as well as a variety of functions and mixed development, when housing, cultural and social facilities are located in one area.

The third influential national project introduced the implementation of the smart cities concept in Russian cities. The project became a part of the National program „Digital Economy of the Russian Federation 2024".[1] According to the responsible Ministry of Construction, Housing and Utilities of the Russian Federation (Minstroy), the ‚Smart City' project is based on five key principles: people-centred; manufacturability of urban infrastructure; improving the quality of urban resource management; comfortable and safe urban environment; emphasis on economic efficiency, including the service component of the urban environment. Therefore, the comfortable urban environment is mentioned again among the key components of a city's well-being and successful development (SMART CITY PROJECT'S WEBSITE). As the Deputy Minister of Minstrroy said, the Smart City 'is a cross-functional project, included in both the 'Digital economy' program and the national project 'Housing and urban environment' (USTINOVA, 2018). Thereby, all three mentioned state initiatives influencing urban development are able to activate synergy and result in positive transformations in cities.

[1] The national program "Digital Economy of the Russian Federation" was approved by the order of the Government of the Russian Federation No. 1632-p dated July 28, 2017 and aimed at "creating conditions for the development of a knowledge society in the Russian Federation, improving the well-being and quality of life of its citizens by increasing the availability and quality of goods and services produced in the digital economy using modern digital technologies, raising awareness and digital literacy, improving the accessibility and quality of public services for the citizens, as well as their security within the country and abroad. "

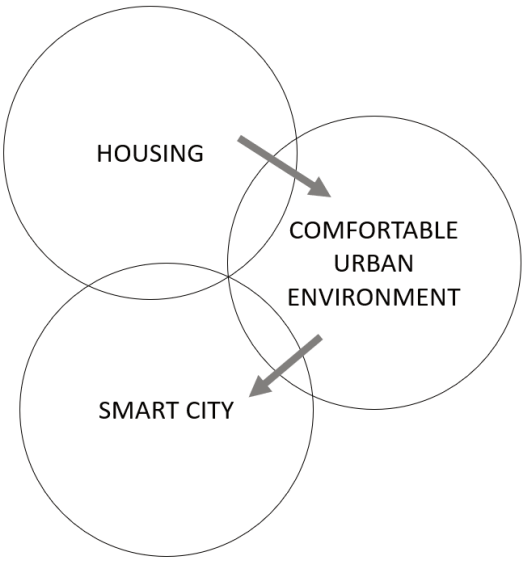

Fig. 1: Interrelation of three directions of the national policy regarding urban development.

The Smart City national project is a logical consequence of a shift in the current political discourse in Russia towards the innovative economy, new technologies and cities as centres of the new economy. Innovations become a flag of the state strategies and programs such as ‚Information Society Development Strategy in the Russian Federation for 2017 – 2030', Digital Economy of the Russian Federation' or ‚The Doctrine of Information Security of the Russian Federation'. However, while different types of innovations in Russia are currently emerging in a variety of areas of socio-economic development, innovations in spatial planning can be likely associated with the new technologies and information systems implementation. The representatives of the national and regional governments easily operate with such terms as 'smart city', 'smart region', 'smart infrastructure', 'digitalisation of cities', 'digitalisation of city management' and even 'digitalisation of space' and these words have become quite common on RuNet. Geoinformation systems in spatial planning, land use or urban infrastructure become symbols of innovative thinking but, the introduction of elements of digital technology itself does not guarantee that the transition to a new level of efficiency in spatial planning will take place. In many cases implementing of information system seems an attempt to 'digitalise chaos'.

Information systems serving to support decision-making processes in the creation of urban strategic and territorial plans, the formation of urban policies, the promotion of e-government, the management of urban infrastructures and housing stock or land use management in urban areas emerge as scattered fragments, which integration becomes even more difficult than in the 'pre-digital period'. Supporting decision-making is useless when decision-making lacks wisdom. However, the very positive effect of the state-driven innovations is the emergence of new technological production offered by the private sector and stimulation of collaboration between planners, IT specialists, researchers and local authorities in attempts of the new tools' development. As a result of such collaboration, in different Russians regions appear information systems that tend to be more than just a tool for automatization of some bureaucratic processes.

While the technological innovations oriented to the creation of new tools for urban planning and management are evident and sound loud, the organisational and social innovations in spatial planning are still silent. They happen at the local level where the real decision-makers implement policies that flexibly reflect the current extremely complicated conditions addressing wicked problems.

4 ROSTOV-ON-DON: A CITY OF CRISALIDE PROJECT IMPLEMENTATION

The city of Rostov-on-Don with the population of 1,130,305 people is the capital of the Rostov region in Southern Russia and the administrative centre of the Southern Federal District. In terms of population, the city is in the 10th place out of 1,113 cities of the Russian Federation. The Rostov metropolitan area has a population of about 2.16 million people and the Rostov region has 4.22 million people. Rostov-on-Don remains a growing city, being able to attract migrants due to is relatively strong economic position in the region and a wide range of services that the city offers. These factors together with the favourable climate

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conditions allow us to assume that in perspective Rostov-on-Don will maintain a positive trend in population change.

Despite the quite diversified economy and better performance compared to many other cities in the region, Rostov is not able to become economically independent due to the peculiarities of the Russian fiscal system, in which most taxes go to the federal level and later are distributed through subsidies. Thus, in 2018 more than half of the city budget was formed by the subsidies from the budgets of the upper levels. In such conditions, state investments is an important contribution to the local development and participation in federal programs is necessary. Rostov actively participates in all national programs and projects. In 2018 the city became one of 36 pilot cities defined in the priority project ‚Smart city' as municipalities, where Smart City technologies will be introduced.

Rostov's economy remains mainly industrial, and innovations represent a very small share. However, the presence of several national universities as well as businesses operating in IT sector and already having experience in collaboration with the municipality for development of the municipal information systems could become a strong initial point for the future development of smart solutions. The existing in different sectors technological tools can be used wisely with the introduction of innovation in policy (TAEWOO&PARDO, 2011).

The large industrial potential in the past caused a significant presence of industrial areas within the Rostov's borders - they occupy about 2,418.4 hectares or 13.6% of the built-up area of the city. Modernisation of industrial production and its reduction in certain industries led to the release of a large percentage of these territories from previous functions and their under-utilisation. At the same time, the city is experiencing a need for territorial resources for housing construction and the implementation of commercial and social projects, which means that the redevelopment of former industrial and municipal territories for the city is a pressing issue.

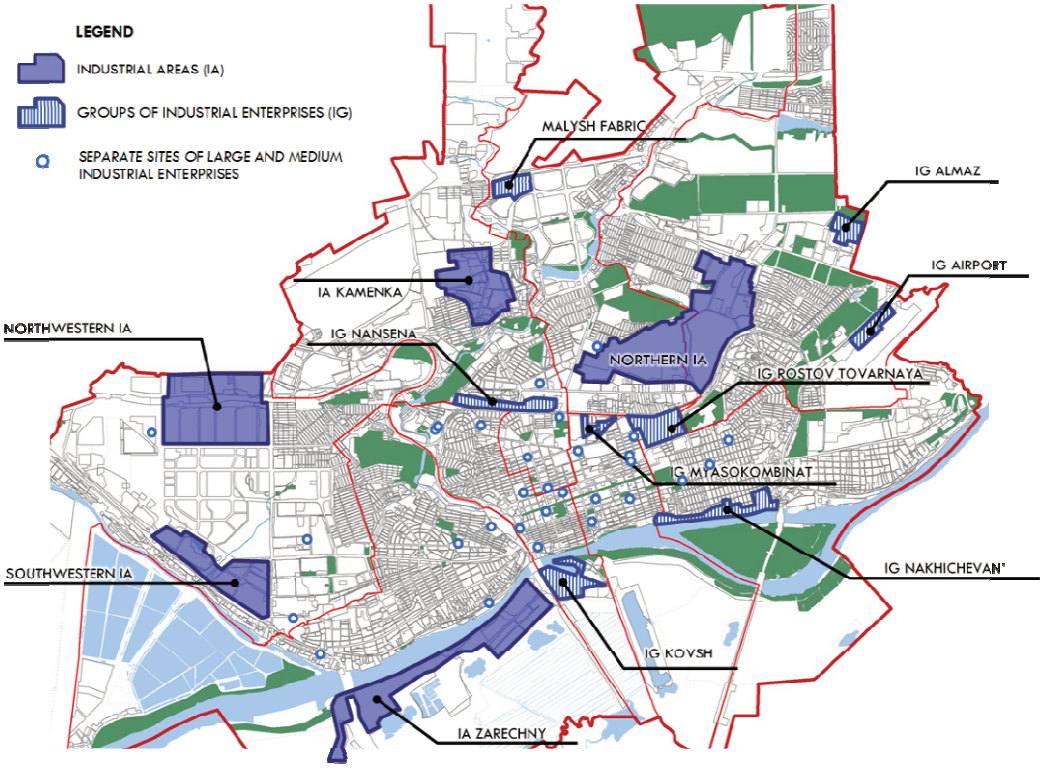

Fig. 2: Distribution of the industrial areas within the Rostov-on-Don boundaries.

The need is confirmed by the current trends that have already been embodied in the city - the conversion of the former industrial buildings for other uses. These examples are related to the sites located mainly in the city center (such as the former tobacco factory transformed into the business center 'Tabachka' that includes offices, financial institutions, media cluster, co-working centers, a complex of bars and restaurants, a fitness center, hotel, shops and so on), or in its immediate vicinity (a part of the helicopter plant's industrial site Rostvertol, transformed into a business and exhibition centre, is well connected by public transport with the city centre and the largest urban residential area, the Northern one). The request for brownfield

redevelopment in the city is growing and currently, several projects are being implemented. This process corresponds well with the request of the national programs and projects described in the previous chapter.

5 CONCLUSION

The contemporary transformations of the national Russian policy brought to life development of a smart city concept in Russian cities. It is a very initial stage and the interpretations of a smart city concept by different players depend very much on the field where they operate and focus mainly on the utilities‘ modernisation and energy efficiency (Boykova, Ilina & Salazkin, 2016). It seems that approach to the smart city policy is mainly technological and much less attention is paid to the managerial and policy innovations such needed for a city to become smart (Taewoo&Pardo, 2011). However, since the national project is in its initial phase and is corresponding to the other state programs and projects influencing urban development, the bottom-up initiatives might meet the top-down actions and produce positive results at the local level.

The case of Rostov-on-Don demonstrates clearly the necessity of smart planning and intelligent solutions in solving of the accumulated wicked problems. Moreover, such kind of issues exists in many other Russian cities that with the state requirements for the compact urban development, comfortable urban environment and the new quality of housing should transform their approach to planning into the smarter process. Nowadays many Russian cities introduce IT technologies in the management of urban infrastructures, but a really smart city needs also a reorganization of the intellectual structure of urban planning and architectural design (Glazychev, 2011).

The CRISALIDE project will provide from the bottom the lacking managerial and organisation innovations. Our efforts will go in the activation of public debate and development of a practical tool for planners and policymakers through the enhancement of the long-term collaboration in the field of urban planning among researchers, companies (technology providers) and the public sector. In this paper we discussed how the existing national discourse and policy related to urban development correspond to the issues existing at the municipal level and which kind of solutions could be implemented within the concepts of compact city, smart city and idea of comfortable urban environment. Smart planning now seems to be a missing point, which should be addressed by the CRISALIDE project.

Most of the major Russian cities face similar issues - therefore, the decision support system in this area has great opportunities for its application and development in other places. Moreover, the adaptation of decision-making tools in the large cities for redevelopment has all the prospects of application in small cities, single-industry towns, cities characterized by population decline and therefore needing controlled compression of their territories and clever management of the existing urban tissue.

6 ACKNOWLEDGEMENTS

This paper is based on the project “CRISALIDE: City Replicable and Integrated Smart Actions Leading Innovation to Develop Urban Economies”, the winner of a joint Russian-European competition of innovative projects under the ERA.NET-RUS PLUS program (project no.42016, application ERA-RUS-4188).

The implementation of the CRISALIDE innovative project is funded by the The Foundation for Assistance to Small Innovative Enterprises in Science and Technology (FASIE) [grant number 395ГР/42016].

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