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Decision Support System Design as a Method to Enhance Public Participation in Urban Development: The CRISALIDE Project, Rostov-on-Don

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1 ABSTRACT

Contemporary urban development in Russia differs from that of the Soviet period by the presence of many new actors, the existence of private property and capital influencing development decisions. A new season of public investment in city planning is emerging in Russia. There is an ongoing discussion of creating new master plans. However, how can be designed and proposed these tools useful and efficient? How to characterize them in their strategic and regulatory aspects? Above all, how to make sure that the master plans are truly tailor-made on the problems of the cities and not standardized tools that do not respond to the needs of the local communities? All these open questions call responsible authorities considering different interests in planning and policymaking. The previous system of administrative planning had to be changed to correspond adequately to new conditions. Officially, the current version of the Russian Urban Planning Code requires 'public discussion' of any urban development project that should be organised by local authorities. However, the formal evolution of the planning law has found little consequences in practice. Regularly organised public discussions remain more rituals than a real planning tool; they have 'recommendatory nature' according to the law that allows public administrations to ignore public opinion in their final decisions.

The paper represents the results of the one-year experience of the CRISALIDE (EU/Russian Federation financed project through Eranet Rus Plus) project consortium in enhancing public participation in the urban development process. The R&D project, aiming at bringing together technological, social and organizational innovations, uses the area-based approach and experiments within the territory of a brownfield (old airport) in the selected city Rostov-on-Don. The chosen work area attracts notable attention of different local and regional actors due to its size, location, marketing potential and regional significance. Design of a decision support system for this area redevelopment becomes a kind of provocation that helped to involve in the design process local experts, activists and policy-makers. Through a series of the organised by the CRISALIDE consortium events, the new collaborations between the local and external actors established and the public discussions of the possible future redevelopment scenarios boosted. Public participation influences the DSS design process and is resulted in the system's goals and methods used that was its main target. At the same time, public discussions at the pre-planning stage is not a common practice in Russia, CRISALIDE proposed and tested a methodology for effectively and efficiently running a participatory planning process capable of grasping the local territorial demand coming from citizens and stakeholders. Moreover, the development of a smart platform, driven by IGis technology, aims at shaping the local decisional environment towards smart design and land use planning.

Keywords: smart cities, smart design & planning, urban planning, participation, DSS, Russia, Eranet Rus Plus.

2 INTRODUCTION

The sharp increase of innovations introduced in the field of urban planning going in parallel with the development of GIS technologies, Big Data technologies and smart city concept popularisation characterise the recent years. Many tools and modelling approaches are being developed to support decision making in

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urban planning (Leeuwen & Timmermans, 2006) based on land-use or movement simulation, virtual environment, or augmented reality. However, to be innovative, the process of urban planning should go beyond technological innovations and imply organizational and social innovations that often lag behind technology. Moving towards democracy and civic engagement in urban planning requires the involvement of many stakeholders. It makes decision-making in urban development quite a challenging task, especially in the societies that do not have accumulated experiences and legitimized practices of public participation.

The project CRISALIDE (City Replicable and Integrated Smart Actions Leading Innovation to Develop Urban Economies) is a winner of the second call of the EU/Russian Federation Programme called ERA.Net RUS Plus. Its goal is to bring innovations into the field of urban planning in the Russian city Rostov-on-Don. The project is experimenting a joint EU-Russian research and collaborative approach for the creation of an Innovative Decision-Making Tool (IDMT), designed to facilitate the renewal and regeneration of abandoned areas and brownfields.

The CRISALIDE R&D project is being developed on the background of the post-socialist transition of the Russian cities and its urban planning system. This system is still top-down, centralised, comprehensive and does not consider public participation as an essential element of decision-making. At the same time, following the global trends in the development of the information technologies, the Russian state introduces projects and programs targeting information technologies development, such as the national project 'Smart City'. The ‚Smart City' national project being a part of the National program ‚Digital Economy of the Russian Federation 2024' claims innovative principles to base on: people-centred; manufacturability of urban infrastructure; improving the quality of urban resource management; a comfortable and safe environment; emphasis on economic efficiency, including the service component of the urban environment. However, in practice, the declared principles are far from being integrated into the urban development process, and innovations in urban planning in Russia are mainly seen in the usage of the new technological tools, such as GIS or e-platforms.

Together with the immaturity of the Russian civic society and little experience in public participation in urban development that has still been implementing through top-down approach create critical conditions for introducing social and organizational innovations. CRISALIDE's approach is to build innovative solutions through a dialogue between stakeholders placed before the transformation of a given urban context, the practice that is not common in Russian urban development projects. The paper represents the results of the first year of the project implementation in which several events organized within the project framework enhanced public participation in urban development and created conditions for the new collaborations between local and external stakeholders. The construction of collaboration between the CRISALIDE partnership and the local authority was a significant project's achievement that implies the introduction of innovations through the bottom-up process.

3 URBAN DEVELOPMENT AND PUBLIC PARTICIPATION IN RUSSIA

The Russian cities are following the in-depth transformation process since the USSR dissolution, and this process is far from being complete (Zupan, 2015). The transformations that change the Russian cities include institutional (political and economic), social (peoples' behaviours and cultural norms) and urban transformations (Sykora and Bouzarovski, 2012) which also means the transition of the urban planning system and planning methods and tools used. However, the mentioned changes do not follow each other in a linear way (Zupan, 2015) and institutional and social transformations can be slow. The urban planning system and practices in Russia, relying on an entirely different compared to the socialist period legislative base created from zero (Golubchikov, 2004; Jounda, 2004) still have many attributes borrowed from the soviet past such as the tendency to centralization, bureaucratization and technocracy (Iyer, 2003). Introduction of private property, new actors interested in shaping decisions in urban development and redistribution of power between territorial levels of governance call for developing new tools enhancing public participation in decision-making. The administrative planning had to be changed to realise the advantages of democratization and decentralization (Jounda, 2004). The new Urban Planning Code enacted in 2004 formally introduced such tools as public hearings that is an obligatory event before approval of any urban development project. According to the Urban Planning Code, urban residents have the right and the opportunity to participate in the discussion of urban planning projects and to express their needs through public hearings' (Ivanova, 2017). However, the practical impact of public hearings on urban development is

minimal since their results have the recommendatory nature and municipal or regional governments have rights not to consider any proposals or critique expressed during the public hearing process even if such proposals can be in thousands (Ivanova, 2017). The local authorities have the right to approve or decline any project taking this decision on their own without public influence.

Another critical point is that, according to the Russian Urban Planning Code, public hearings consider an already complete project developed by the local or regional government together with an urban planning or architectural company hired after tenders. In this case, the discussion is usually limited by one version of the project prepared without any pre-design investigations of public opinion and the projects often do not receive support from the society (Jounda, 2004). Using such an approach provokes inertia and inactivity of citizens (Ivanova, 2017), who understand that their opinion cannot influence the final decision and is not essential in urban development projects.

The situation has been slightly changing, and some local authorities try to introduce new tools for people's engagement, actively using information technologies and promoting e-participation. These participation strategies are usually formed under the dominance of a 'vertical' approach and may not change the relationship between citizens and government but may lead even to conflicts between them (Chugunov, Kabanov & Misnikov, 2017). The non-organised by the government forms of public participation are represented by the traditional NGOs, expert NGOs and spontaneous initiatives which rise as a reaction to the threats to the population (Belokurova & Vorob'ev, 2011). There is always a lack of horizontal communication and their intersection with the developed ‚vertical' mechanisms of participation. It worth noting that civil society in Russia is still immature, and there is no tradition of ist participation in decision-making (Ivanova, 2017).

4 PARTICIPATION PRACTICES IN ROSTOV-ON-DON

The same disadvantages in the process of the local citizens' involvement in urban planning characterise the city of Rostov-on-Don, where the CRISALIDE project is being implemented. The city is the capital of the Rostov region in Southern Russia and the administrative centre of the Southern Federal District with a population of 1,130,305 people. The city's population has a high intellectual potential and entrepreneurial activity due to a relatively diversified economy and the presence of many higher education institutions. However, citizens' participation in urban development is quite modest. At the stage of decision making the local experts are usually involved personally – they advise government departments in person or through advisory groups, but usually, they have little influence on the final decisions. The most active public participation in Rostov-on-Don is evident in so-called ‚problematization' (Belokurova & Vorob'ev, 2011) in the form of protests when people manifest their disagreement with the decisions taken by the local authorities. In Rostov protests, for example, were against the construction of a landfill and a plant near the residential area Leventsovsky in 2019. The other protests were against the transport reform in 2017 when several routes and transport units the local authority planned to reduce.

Public hearings required by the Urban Planning Code have not become an important tool in decision-making in Rostov-on-Don. First, very few public hearings are organized in the city. Second, there are few initiative groups and social movements able to influence final decisions in urban development. Thus, in 2017, 29 projects of urban design in Rostov-on-Done were developed and presented for public hearings, and 20 of them were approved without any comments and suggestions. Only one project was sent for revision based on the results of comments and suggestions. (Merkulova & Kozlov, 2018). Considering the results of public hearings in Rostov-on-Don, it is possible to conclude that this tool is too far from being effective in communication between the local authorities and the public.

Like many other Russian municipalities, the city of Rostov-on-Don implemented instruments of e-participations – city portals. The official City Duma and the Administration of the city of Rostov-on-Don portal (https://rostov-gorod.ru/) is an information system containing a broad array of data about the city (history, official documents (decisions, draft decisions and regulatory legal acts), city events – both past and upcoming, the structure and powers of the city government, and public chamber. Open data located in this information system allows obtaining information for subsequent decisions on urban development divided into several categories: social sphere, roads and transport, education, culture, safety, housing and communal services, construction and architecture, trade or service industry. The portal claims that the above data has to

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ensure the transparency of the authorities and the reliability of information about them allows citizens to obtain data for solving everyday tasks and needs. The portal provides top-down communication between local authorities and Rostov's citizens.

Fig. 1: The start page of the official portal of the City Duma and the Administration of the city of Rostov-on-Don with the citation of the Head of Administration' words: 'City development should be carried out taking into account the opinion of the architectural community and the wishes of Rostovites' [Accessed 29 January 2020]

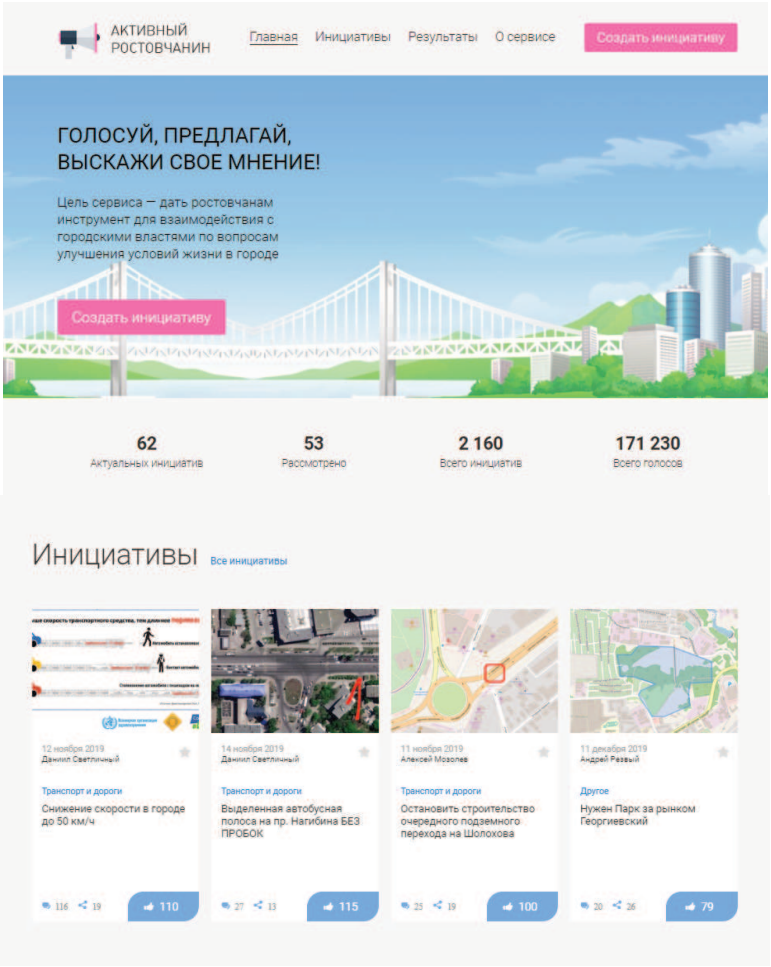

Fig. 2: Start page of the service 'Active Rostovite' or 'Aktivny Rostovchanin' (https://ar.rostov-gorod.ru/

In addition, the official web-portal includes several services among which there is a service 'Active Rostovite' or 'Aktivny Rostovchanin' in Russian language (https://ar.rostov-gorod.ru/). This service provides

a possibility for bottom-up communication. Its start page says that 'The service is designed to identify the most popular initiatives by citizens on improving living conditions in the city of Rostov-on-Don, as well as to obtain the citizens' opinion on the initiatives of the local authorities'. The citizens can propose initiatives and vote for the initiatives made by others. The municipality considers the initiative when it collects over 500 votes. However, the statistic published on the web-portal 'Active Rostovite' is not that promising: the municipality considered only 53 initiatives among 2,160 proposed by the citizens.

The analysis of the vertical and horizontal communication concerning urban development in Rostov-on-Don demonstrates lack of dialogue between local authority and citizens, lack of bottom-up activities and initiatives and little interest of municipality to involve citizens in decision-making in urban development.

5 CRISALIDE IMPLEMENTATION

The CRISALIDE project leverages on the principle of participatory planning and its methodology being guided by establishing a multi-stakeholder group to sustain the collaboration in the field of R&D and innovation through a set of participatory events. The key idea of the CRISALIDE project was in the involvement of the local stakeholders at different stages of the R&D, including the pre-design phase.

5.1 Experimentation area

The experimental site selected for the CRISALIDE project implementation is the area of the former airport 'Rostov-on-Don' located in the eastern part of the city in nine kilometres from the city centre, in the Pervomaysky administrative district. The airport stopped its operation in December 2017, when the new international airport opened - Platov International Airport. The local planning documents consider the old airport's territory as an internal spatial resource for development years before the actual realization. Thus, the city's General plan approved in 2015 proposed the construction of 1,596 thousand square meters of housing within the plot of 267 ha until 2035. After the new airport construction, the local authority started to promote the area for redevelopment and several projects have been done, one of which was presented at the Russian Investment Forum in Sochi in 2018.

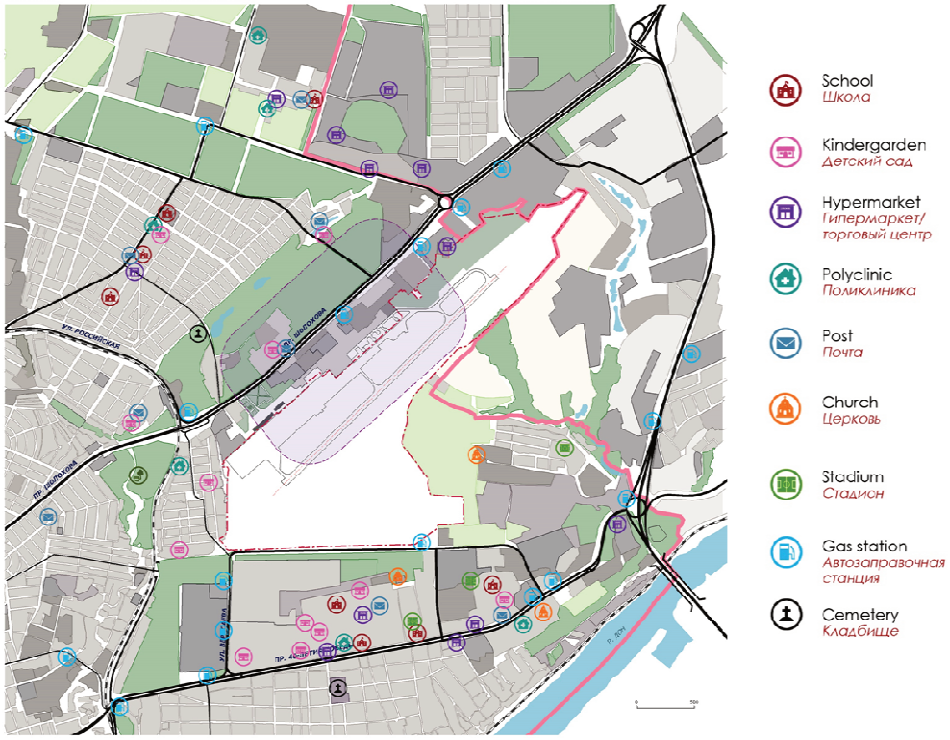

Fig. 3: The former airport 'Rostov-on-Don' area with the existing services in its surroundings.

The local authority does not have many alternatives for the former airport's area development. In essence, the most desirable scenario assumes the arrival of a prominent investor able to implement a large-scale project in the construction of housing and commercial real estate. However, the value of such a significant territorial resource for the development of the city, the potential for creating a high-quality urban

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environment and opportunities for innovative economic development, forming a positive image of the city and attracting investments provide advantageous conditions and excellent prospects for the application of innovative methods and technologies in planning and development of this territory.

5.2 CRISALIDE participation process

The CRISALIDE project aimed at enhancing bottom-up participation in the urban development process. Through the selection of an experimental area that is an essential site for different types of local stakeholders – authorities, business or public representatives – CRISALIDE creates conditions for the collaborations and public discussions of the area's future. This practice is very distant from the standard practices used in Russia in general and in the city of Rostov-on-Don in particular. The CRISALIDE methodology builds the solutions from the bottom and works with the stakeholders in identifying the problems to be faced. It defines the figure of the planner as that of a mediator and facilitator of complex processes. A methodology does not offer a priori solution, which does not have the innovation package ready to be sold and applied top-down. The process aims at bringing to the project the local values and discover opportunities for long-term collaborations' construction. The process was designed divided into several steps.

The first initial step had the purpose of announcing the project, attract local experts interested in the areas' development and introducing new tools in decision-making and expand experts' networks that would promote future collaborations. The first event resulted in constructed cooperation between the CRISALIDE partners and local stakeholders representing science, business and public sectors. The first stage of the project presentation was followed by the work of partnership members with the local and external experts to develop a hypothesis about the structure of the future decision support tool.

The second step included active involvement of the local stakeholders (experts, public activists and representatives of the local authorities) into the participatory process aimed at joint elaboration of the visions that could become the basis for the decision-making. The participatory process was organized through a one-week workshop that had a double purpose: 1) to lay the foundation for the design of a decision support system by mapping existing knowledge and collecting evidence, and 2) to develop technical and local requirements for innovative decision-making tool.

However, the results of this participatory practice implementation went beyond the objectives of IDMT design and provoked a broad public discussion on the area's future development. Most experts participated in the workshop agreed that with the development of the territory of the old airport, one could not use outdated approaches to planning and construction. The general opinion was the need to consider this area as an experimental platform for the introduction of new planning methods and practices, advanced construction technologies, organization and management of the urban environment, taking into account such modern challenges as climate change, environmental pollution, demographic problems, socio-economic stratification of society and the rapid development of new technologies. Avoiding the construction of commercial housing, the formation of high-comfort public spaces, the introduction of new forms of mobility and environmentally friendly technologies, the creation of conditions for maintaining the health of the population, the realization of its creative and intellectual potential, the activation of innovative forms of economic activity - these key positions were voiced by most experts. Several unexpected development scenarios were proposed, including 'standby mode' in which the areas' development should be postponed until the local society will be able to use and enhance its advantages effectively.

The next step of a participatory process was built on the defined set of values discussed and agreed with a multi-stakeholder group. The values' discussion resulted in a set of key performance indicators (KPIs). The current stage of the IDMT development includes collaborative work between the CRISALIDE partners and the Rostov-on-Don municipality which has as the main objective integration of a formalised set of values, scenarios, knowledge, methods and tools evolved during the participatory workshops into the existing decision-making process. At this point, the main CRISALIDE goal is to create an intersection between the government (vertical) and public (horizontal) perspectives.

Simultaneously, a series of public events such as conferences and workshops organized to promote CRISALIDE ideology and involve new participants.

The final stage of the project development will include testing the IDMT use by different users in a variety of scenarios which will impact both decision-making process in municipality and level of public involvement in

this process that will be another step to the democratization of the decision-making in urban development in Russia. Since the project has been implemented in the city included as a pilot city into the Russian national project 'Smart City', there is an opportunity of the CRISALIDE methodology dissemination and upscaling.

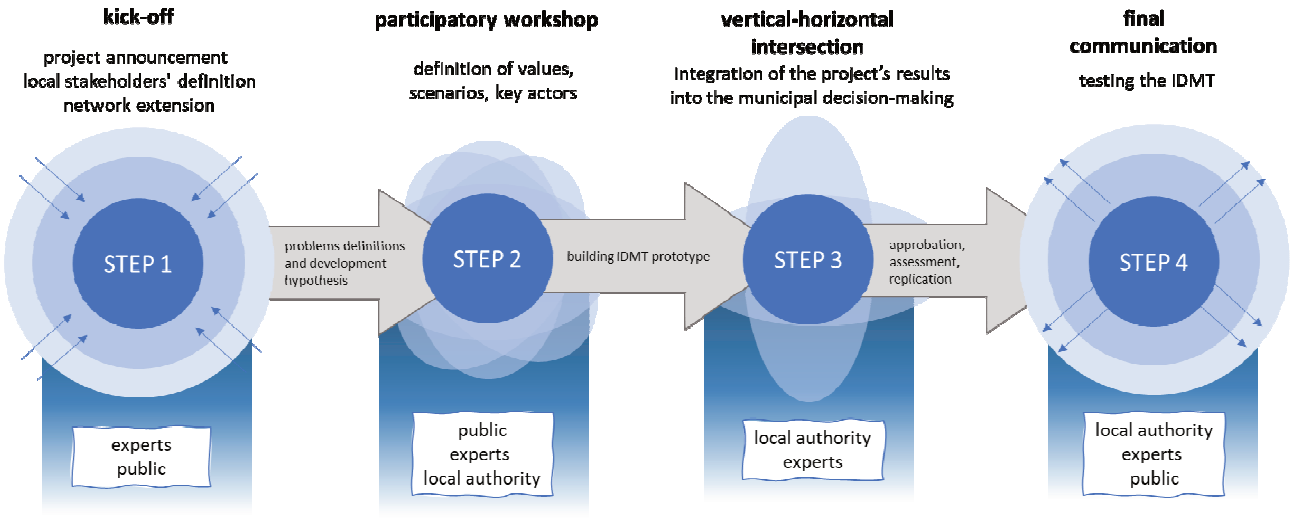

Fig. 4: CRISALIDE participation process.

6 CONCLUSION

The CRISALIDE project aimed at establishing a decision support system in urban development creates an opportunity to enhance dialogue between public and local authorities and integrate bottom-up initiatives into the local decision-making system. The practice of public involvement at the pre-design stage is uncommon in Russian cities. It, therefore, is an innovation that allows consolidating public opinion, taking into account the various interests of the present and future periods, including most effective local development resources in the use and launch processes at the local level that activates socio-economic development. The CRISALIDE participation process demonstrated that local community in Rostov-on-Don is ready for a constructive dialogue and that public discussions should accompany the development of the territory at all stages of project design and implementation. The appearance and support of the bottom-up initiatives in urban development might positively contribute to the development of the new approaches in urban development decision-making. Introduction of public participation at the different stages of urban projects development (especially at the pre-planning stage) might significantly increase the public impact on urban development.

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