

BOOK REVIEW SECTION

Pánek, J. (ed.): *Geoparticipatory Spatial Tools*. Cham, Springer, 2022. 197 p.

Nowadays, participation is becoming an essential tool in urban development. To manage urban growth, spatial aspects must be considered such as land use, building density, proportion of green areas, and so on. What is also particularly crucial is how the inhabitants of the city or the district feel about the space around them, or, to put it more simply, what do their mental maps look like.

However, participation is facing an ever-growing issue: the lack of citizen motivation (CURPS, D. 1977). Conventional participatory tools on their own are not satisfactory anymore, since people think that their voice does not matter, so they rather would not get involved. The approaches of geoparticipation, or rather the mere consideration of it, can help to better reach out to people and motivate them to engage.

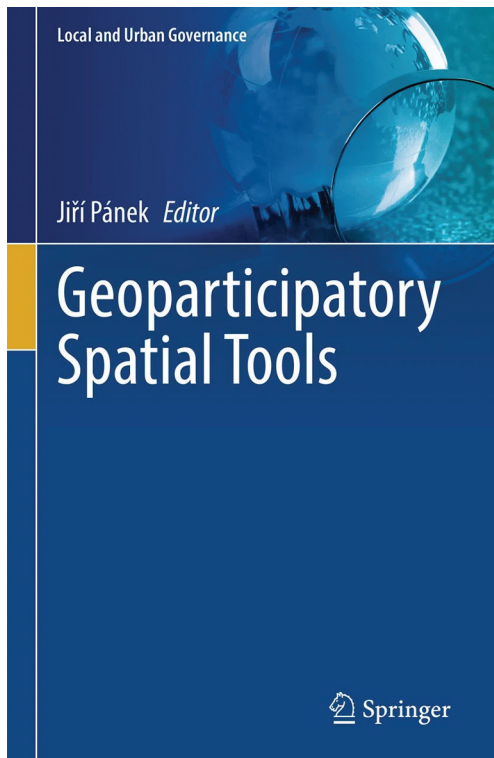
The book is edited by Jiří PÁNEK and is a collection of studies about the topic of geoparticipation and geopa-

rticipatory spatial tools. It contains eight chapters, including *Introduction*, which build on each other. The volume contains theoretical and empirical chapters as well as case studies. The book focuses on the Czech Republic and the characteristics of its system of local governments. However, it can serve as a base for further studies within the whole of Central and East Europe.

The introduction of the book is the first chapter, written by the editor himself. He briefly guides the reader through the notions of participation, the growing importance of GIS, and how certain digital maps, such as OpenStreetMap, have become co-creational products over the years due to the development of technology. He highlights the notion of e-participation, which is defined by the UN Department of Economic and Social Affairs. To simplify the definition, it is a way of citizen involvement in decision-making and governance with the help of ICT. E-participation can be measured with the E-Participation Index or EPI. It contains three main components: e-information, e-consultation, and e-decision-making. In 2020, the top three countries according to the index were Estonia, the USA, and South Korea.

Another important aspect of this chapter is the definition of geoparticipation and the enumeration of its types. PÁNEK refers to ZHANG, S. (2019), who defines geoparticipation as “geo-enabled practices related to public participation.” There are three types of it: consultative, transactional, and passive geoparticipation. Thanks to these definitions, the introduction serves as a solid fundament for the rest of the volume. The last part of the chapter describes the structure of the book.

Chapter 2 (*Geoparticipation and Democratic Theory*) is written by Jakub BAKULE. At the beginning, the author aims to place geoparticipation in the context of non-electoral participation. He argues that throughout the years, beginning from the 1940s, the different theories about democracy evolved to a point where geoparticipation is considered as a key factor in differentiating the theories of democracy. The first subsection of the chapter tries to examine the connection between participation and democracy, while seeks to answer the question of how much participation is needed within democracy. He points out two main issues: first, how scholars understand the definition of democracy—more precisely, democracy in terms of government by the people; second, the different understandings of political participation. By taking both together, we arrive at a point where different meanings result in different approaches, thus, different theories. BAKULE emphasizes two main branches:



the theory of fragile democracy, and the theory of strong democracy. Both are examined through the lens of participation, or more precisely, the amount of participation. In the first case, the author presents the views claiming that too much and unreasonable participation leads to the excess of democracy, which threaten the liberalism of institutions. In the second case, however, the author claims that participation is very much needed for a strong democracy and plays a significant role in supplementing democratic institutions. In the concluding section of the chapter, the author declares that geoparticipation is in between the two aforementioned concepts and the question of which concept is better, has not yet been decided.

The third chapter is a study of Jaroslav BURIAN, Jiří PÁNEK and Vít PÁSZTO (*Geospatial Technologies for Geoparticipation*). The chapter aims to provide an overview of the technologies, tools and approaches used for geoparticipation. It contains four sections (including introduction). The second section is a brief description of the traditional approaches to urban planning. The authors mention strategic planning, spatial planning, and the role of the master plan (or local/urban/spatial plan). The third section is a well-detailed study that leads the reader through various modern approaches to urban planning, such as smart city initiatives, the participation of residents, analysis, modelling, simulation, and geodesign. These methods rely on geoinformation technologies, and while they are progressive ideas, their implementation, as the authors point out, may face difficulties.

The fourth section is a detailed list of tools for data collection, geodesign, and analytical processing and modelling. The authors present different ArcGIS applications, such as Survey 123, Collector and Field Maps. They also describe *Pocitovemapy.cz* and *EmotionalMaps.eu*, which are co-developed by the editor of the book; Ushahidi, which is a Kenyan non-profit company's open-source software; KoBoToolbox, which is an open-source toolset of the Harvard University; and ZmapujTo, which is a Czech application created within an ecological project aiming to oppose illegal landfills. All these are tools for data collection. For geodesign, they also mention Phoenix+, which is used for multi-person participation in the planning process, and Priority Places, which is an interactive mapping tool for easier location and (re) development. In addition, there are three ArcGIS extensions, CommunityViz, which helps users in doing multi-criteria analyses; UPlan, which is a development scenario creator; and GeoPlanner, which is a multi-criteria analysis app for scenarios. For analytical and modelling purposes, they present tools such as CityScope, an MIT project focusing on solving spatial design and urban planning challenges; Mestometer, an interactive game aiming to present the importance of spatial planning; UrbanSIM (or UrbanCanvas), which is a sophisticated simulation model; Index

Online and SPARC for creating real-time scenarios; and UrbanAPI, which contains three kinds of software to simulate urban growth and evaluate land-use changes. For the same purpose, the authors include two ArcGIS extensions as well, namely iCity for creating scenarios, which could be then compared with each other, and EnvisionTomorrow for creating multi-criteria analyses and alternative scenarios.

This chapter is highly detailed, which is an evidence for the advancement of technology and new approaches, and a probable justification of their application in the future. However, it is always important to keep in mind that the ArcGIS extensions are not free, so one must calculate with prices when it comes to using these tools.

Chapter 4 (*Open Data and Its Role in Geoparticipation*) is the work of Jaroslav BURIAN and Barbora KOČVAROVÁ. The chapter contains two parts. The first is about open data and their publishing in general, and the second provides a toolset for publishing these data. As the authors emphasize, information has a huge value. Therefore, open data is a necessary component of fruitful analyses, especially if the collected data has no significant value to the private sector. The introduction of the first section draws the reader's attention to this noteworthy fact. In the following part, the authors describe the definition of open data in detail, presenting its main characteristics and the five levels of its openness. They also write about open data in the EU, the convenient use of it, and how and in which formats researchers can access them. They briefly present the publishing process of open data, which is explained in more detail in the second part of the chapter. As I mentioned before, this chapter is a thorough collection and description of tools, metadata and licenses. The authors present the CKAN, the Comprehensive Knowledge Archive Network, which is an open-source portal where datasets can be published, shared, and served. After a meticulous description of the network, the authors present some CKAN sub-platforms or parallels, such as DKAN, Socrata, Junar, ArcGIS Hub, ArcGIS Enterprise Sites, and National Open Data Catalogue. They also refer to metadata and explain the ISO regulations and the different forms of licenses.

Improving Local Democracy Works: Determinants of Participatory Local Governments is the title of the fifth chapter, written by Jakub LYSEK. What I have mentioned at the beginning of this review about the motivation of citizens echoes back in the author's thoughts. He argues that citizen trust and motivation considering participation and involvement in decision-making in the countries of Central and Eastern Europe still do not reach the level of democratically more advanced nations. The author presents a study that examines how much Czech local governments involve citizens in decision-making and which factors determine these differences. For this purpose, the chapter explores the peculiarities of the Czech munic-

ipality system and its development through the past few decades, also considering the communist heritage of the country. He presents a significantly fragmented framework of municipalities, which makes studies harder to conduct and shapes politics as well. After the brief presentation of the local governmental framework, the author argues that participation, deliberation, and transparency are the key concepts of democratic innovations. Nonetheless, he also highlights that citizens must be informed at the highest possible level in every form of democracy, otherwise they cannot properly participate and democracy will not be working properly. LYSEK also writes about the determinants of participatory institutions at the level of municipalities, and he specifies three main aspects: the institutional factor at the municipal level, political competition and political factors, and socioeconomic development. Each of them has a massive influence on participatory movements on the municipal level.

This part of the chapter is a theoretical introduction, which is followed by the empirical analysis. The dataset includes all municipalities in the Czech Republic, i.e., 6,258 units. The study focuses on the determinants of participatory techniques and transparent government. Based on different questions or indicators, the author builds three clusters from the variables. For example, the communication dimension includes whether the municipality's website is mobile friendly; the participation dimension includes whether the municipality uses opinion polls on a municipality web; and the transparency dimension includes whether the municipality shares information about the council members. After that, the study focuses on measuring institutional, political, and socioeconomic factors, and used descriptive statistics such as the number of population, the proportion of inhabitants with tertiary education, the share of self-employed and elderly people. Interestingly, the author also considers the age and gender of the mayor for each municipality, which suggests that these two factors may have a significant effect on participation in the Czech Republic. Indeed, the study results in that female mayors give more support to participatory governance than males. The author suggests that further studies are still needed.

The sixth chapter, entitled *Participatory Budgeting in the Czech Republic*, is a study by Jiří CHOVAŇEČEK. The chapter can be divided into two main parts. First, the author familiarizes the reader with the theoretical foundations of participatory budgeting, by presenting the origins of the concept and its different frameworks. Second, he presents mainly through a case study of the Central Bohemian Region how participatory budgeting works in the Czech Republic, and which political parties and movements support it. The approach itself and the methodology used can be useful for further studies in Central and Eastern Europe. This chapter reveals another component of

the complexity of citizen participation. According to the author, money has a significant role, and from the moment the community has a word in where it should be spent, it results in more transparent governance, more satisfied citizens, and perhaps a sense of belonging. Moreover, if citizens could make such financial decisions, they would regard the tax they pay to the local government as an investment into their own city, neighbourhood, and home. On the other hand, local governments could have a better relationship with their citizens who probably would complain less about the local taxes, which would also increase the local government's and the mayor's chance to win the next election.

The case study presented in this chapter shows that between the years 2012 and 2020, 227 participatory budget events occurred. The author reveals significant differences between municipalities, and between political parties and movements. Interestingly, non-parliamentary parties and movements were significantly more willing to use participatory budget initiatives. Another interesting fact is that after the change of political leadership in Central Bohemia, the project of participatory budgeting was abandoned. Through this case study, it is unambiguous that currently there are different limiting factors in the way of a viable and sustainable participatory budgeting system, not to mention the financial damages that the COVID-19 pandemic has caused, or the current war situation. For a better cooperation, not only citizens should learn how to work together with the local government and civil services, but political actors and other stakeholders also have to do the same. Once the human barrier is overcome, it becomes easier to design the system.

Chapter 7 is written by David ŽICHOVSKÝ, Jiří PÁNEK, and Jiří CHOVAŇEČEK, and entitled as *GeoParticipatory Tools in Action: Case Study Jeseník, Czech Republic*. The structure of the chapter is a bit unique, because 6 out of its 7 sections raise a question in their title, which the author answer one by one. The case study uses an emotional mapping technology and the questions fit to this. They ask, for example, where the participants feel comfortable or neglected, and where they spend their free time. Interestingly, the biggest number of responses has been received for two questions about comfort and safety, while the lowest number of responses has been received for the question of shortfall. This suggests that citizens are satisfied with the amenities, nonetheless, there are many places where they do not feel safe.

I would like to highlight from this chapter the methodology and its relevance. Undoubtedly, some places are better known for the citizens. For example, 24/7 stores where young people buy alcohol, abandoned areas, where homeless people live, tourist destinations, which are crowded throughout the whole year, clubs, and so on. Yet, in many cases, the problems related to these places are not properly handled by the authorities, or they only receive few com-

plaints. A study like this one of Jeseník shows how citizens feel about different areas in the city, which makes it easier to respond to, prioritize, and solve social conflicts. Participatory movements help the local government and the citizens at the same time and, thus, can improve the relationship between them.

The final chapter (*The Application of City-Building Games in Spatial Planning*) is a study from Jan PÍŇOS and Jaroslav BURIAN. It presents the relevance of city-building games for spatial planning through introducing a case study where a certain game, called *Cities: Skylines* was used. The game was selected based on the researchers' criteria, which included among others the authors' previous personal experiences. The chapter discusses the relevance of simulator games in general and discusses their IT aspects in detail. The case study focuses on the town of Olomouc in the Czech Republic, and a new neighbourhood called VOP Velkomoravská, which was a former military compound. The project had five stages beginning with the preparation of the rules followed by a design contest and ending with the gathering of feedback from the players and the jury. The criteria for the design included residential housing, public spaces and greenery, infrastructure, building height limitation, and services. The contest lasted for two and a half weeks in January 2021, and 10 designs were submitted. After submission, the models were tested and rated by a detailed list of parameters such as pedestrian crossings, flood protection measures, bike paths, parking, shops, etc. These parameters were split then into three priority groups, and their scores resulted in rankings by each parameter. Finally, a four-membered jury assessed the designs, and their scores were added to the parametrical scores. After the contest, the participants had to fill in a questionnaire about the project. In general, the results were positive. The participants found the rules clear, the challenge interesting and motivating, the game suitable for planning purposes and, surprisingly, the funding of the prize was less important to them. Altogether, this project was a success and proved the relevance of such a participatory tool, despite all the barriers I discussed in this review.

In sum, the book is a well-detailed description of the current tools of geoparticipation in spatial planning. It is a suitable starting point for further studies in Central and Eastern Europe, and it can also be used as a handbook for the practical application of geoparticipatory tools. The theoretical founding of the volume is adequate, and the case studies justify the relevance of the tools presented in the book. Even if one may have less interest in the governmental and financial situation of the Czech Republic, the same research methods and tools can be used in many cities, regions, and countries with similar social characteristics. I very much recommend the volume to both researchers and professionals in the field of spatial planning.

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