

Editorial Introduction

Shifting frontiers of the new spatial planning paradigm from a theoretical and methodological development perspective

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Abstract: There is currently an emerging discussion about the shifting frontiers of research in the field of urban and regional planning. This special section focuses on the new spatial planning paradigm from a theoretical and methodological development perspective. The six papers published in this special section contribute to and extend the spatial planning literature, specifically in relation to land use, ecology and urban geography. The main themes addressed by the papers are as follows: 1) advancing the theoretical development of the concept of new ruralism and its application as a spatial planning principle for sustainable development in rural areas of Korea; 2) the significance of spatial adaptation and the resilience of healthcare systems in responding to the unprecedented hazards and health risks resulting from the COVID-19 pandemic in Abu Dhabi City, in the United Arab Emirates; 3) transit-oriented development (TOD) and its spatial associations with the land use of low-density areas in the Keihanshin conurbation in Japan; 4) estimating the land surface temperature to enhance understanding of changes in the landscape for residents of the Kolkata Metropolitan area in India, using a radiative transfer equation algorithm; 5) how the ecological knowledge of local residents in Shiheung City in Korea, accessed via a spatial text mining approach, can be used to inform policy making; 6) applying a Q methodology to investigate individuals' subjective views and perceptions of nature/natural features when visiting urban parks in Seoul, Korea. Bringing different types of theoretical and methodological perspectives together, this editorial concludes with a summary, critical discussion and suggestions for future research with regard to the new spatial planning paradigm.

1. INTRODUCTION

Spatial planning is mainly used in the public sector to influence the spatial distribution of future activities, and aims to achieve a more rational territorial organisation of land use and functional relations, by balancing the needs of environmental protection and development to achieve the overall goals of social and economic development ([Wegener, 1998](#)). It is also a useful tool, which can be employed to proactively facilitate human settlements and help prevent some of the potential vulnerabilities and disasters caused by the consequences of climate change, such as rising sea levels and/or heat waves, etc. ([Asian Development Bank, 2016](#)). There is an emerging discussion about where the changing frontiers of research in the



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field of urban and regional planning now lie. Spatial planning is currently entering a new era, characterised by a paradigm shift from both a theoretical and methodological viewpoint. The six papers collected for this special section, contribute to and extend the spatial planning literature, primarily in relation to land use, ecology and urban geography.

The aim of this special section is to focus on and discuss the shifting frontiers of the new spatial planning paradigm in terms of its theoretical and methodological development. In relation to the theoretical aspect, three papers contribute to the theoretical extension of: the concept of new ruralism; spatial adaptation and resilience; and transit-oriented development (TOD) and land use. From a methodological perspective, the other three papers use a radiative transfer equation algorithm; a spatial text mining approach; and Q methodology, respectively, to explore the field of spatial planning.

More specifically, the main themes explored by the six papers are: 1) the theoretical development of the concept of new ruralism and its application as a spatial planning principle for sustainable development in rural areas of Korea; 2) the significance of spatial adaptation and the resilience of healthcare systems in responding to the unprecedented hazards and health risks resulting from the COVID-19 pandemic in Abu Dhabi City, in the United Arab Emirates; 3) TOD and its spatial associations with the land use of low-density areas in the Keihanshin conurbation in Japan; 4) estimating the land surface temperature to enhance understanding of changes in the landscape for residents of the Kolkata Metropolitan area in India using a radiative transfer equation algorithm; 5) how the ecological knowledge of local residents in Shiheung city in Korea, gathered via a spatial text mining approach, can be used to inform policy making; 6) applying a Q methodology to investigate individuals' subjective views and perceptions of nature when visiting urban parks in Seoul, in Korea.

The rest of the paper is organised as follows. The six papers are summarised and critically discussed in the next section, highlighting their contributions and key arguments in relation to the new spatial planning paradigm from a theoretical and methodological development perspective. This is followed by a brief summary of the special section, emphasising the significance of the new spatial planning paradigm, as well as suggesting directions for future research.

2. DISCUSSION OF THE PAPERS

The first paper, written by [Yi and Son \(2022\)](#), is entitled '*What is new ruralism and why is it needed for spatial planning? Focusing on its application to Korea as a new rural planning principle*', and offers a comprehensive review of relevant studies investigating the concept of new ruralism. The authors construct and develop a theoretical framework that can be applied to new ruralism to advance the existing literature on rural planning, and highlight the theoretical concept of new ruralism, in this case through the application of the concept to the Korean context as a spatial planning principle. They conducted a literature search via Google Scholar and initially found and selected 128 publications using four keywords 'new rurality'; 'neo-rurality'; 'new ruralism'; and 'neo-ruralism'; after sifting, 44 of them were considered suitable for inclusion in the final analysis. [Yi and Son \(2022\)](#) highlight the significance of new theoretical developments and the application of the concept of new ruralism as a spatial planning principle,

as well as demonstrating four key features, namely ‘conservation’, ‘cultivation’, ‘community’, and ‘creativity’ (4C principles), which can be used in relation to rural spatial planning for sustainable development and creating a better living environment for the next generation. The theoretical contribution of this paper could also facilitate the application and further development of new spatial and rural planning principles in contemporary society ([Gao, Wang et al., 2022](#); [Johnson-Woods and Feldpausch-Parker, 2022](#)).

The second paper, by [Meziani, Husnéin et al. \(2022\)](#), entitled ‘*Spatial adaptation of alternative care facilities during the COVID-19 pandemic: Siting field hospitals for Abu Dhabi City*’, addresses the current COVID-19 global public health crisis and the corresponding provision of healthcare systems, thereby contributing to the existing literature on the spatial adaptation and resilience of healthcare systems. They examine the siting of deployable field hospitals (alternative care sites (ACS) – field hospital planning) designed to mitigate the level of COVID-19 risk and provide better support for staff directly involved in patient care. The paper is based on four case studies, from the United States (New York), Singapore, China (Wuhan) and the United Arab Emirates (Sharjah), respectively, drawing comparisons between them in terms of analysing community and government-led spatial planning designed to reduce the spread of COVID-19. The authors also explore and assess both urban and suburban areas in Abu Dhabi City in more detail, and provide corresponding solutions to address the shortages and limited capacity of current healthcare systems caused by the unprecedented situation resulting from COVID-19. They identify spatial adaptation and resilience as being key factors that healthcare systems need to address in order to respond effectively to the unprecedented hazards and health risks confronting them from a spatial planning perspective. The key findings regarding spatial adaptation in relation to the ACS could contribute to existing theoretical knowledge about the resilience of healthcare systems and their infrastructure, and provide guidelines on spatial planning and management in order to enable governing within a city to deal more effectively with the urgent public health needs presented by an emergency such as the COVID-19 pandemic ([Song, Cao et al., 2021](#)).

The third paper, entitled ‘*The possibility of reorganising transit-oriented development: A case study of low-density occurrence around railway station in the Keihanshin conurbation in Japan*’ written by [Aoki \(2022\)](#), deals with the sustainable transition from a low-density city to a compact city. It reviews existing literature and offers an in-depth examination of the reorganisation of transit-oriented development (TOD) in low-density areas around railway stations within a 1km radius, taking relevant spatial characteristics into account in order to gain further insight into spatial planning, in the case of a society with a decreasing population, namely the Kyoto-Osaka-Kobe metropolitan region (Keihanshin conurbation), the second largest urban area in Japan. The key argument focuses on the co-existence of low-density areas and railway stations. The results show that low-density growth occurs around certain railway station catchment areas, which runs counter to some of the more traditional views about the meaning, purpose and key function of TOD, for example, that TOD is intended facilitate connections between transport systems, and bring more people, activities, housing, and public spaces together to create a more compact city. The findings derived from the study of [Aoki \(2022\)](#) can significantly contribute to the theory of TOD and its spatial relationship with land use, urban planning and dynamic patterns of change ([Cervero, 2018](#); [Cervero and](#)

[Landis, 1997](#); [Cuthill, Cao et al., 2019](#); [Liang, Du et al., 2020](#); [Liu, Nath et al., 2022](#); [Yu, Zhu et al., 2022](#)).

The fourth paper, by [Gupta and Aithal \(2022\)](#), entitled '*Effects of rising urban temperatures on the wellbeing of residents: A case study of Kolkata Metropolitan Region*', takes the Kolkata Metropolitan Region in India as a case study, and investigates the estimation of land surface temperatures (LST) to better understand changes in the landscape, due to climate change and land use, and their impacts on residents from a spatial planning perspective, through the application of a radiative transfer equation (RTE) algorithm. Using LST estimations, the authors found that a substantial increase in temperature of 6.77 °C occurred between 2000 and 2019. The results could provide helpful guidance and evidence for government bodies, policymakers, climate change experts, and urban and spatial planners, enabling them to rethink and, if necessary, adjust the currently proposed policy frameworks to achieve a better trade-off between the impacts of climate change on the environment and urban development. The RTE algorithm employed in this study could potentially be used to explore the relationship between urban temperatures and the effects of changes in the landscape in different geographical contexts at a regional/city level.

The fifth paper, entitled '*A spatial planning technique using the ecological knowledge of local residents: A study of the Hojobeol area of Shiheung city, Korea*', written by [Lee \(2022\)](#), applies a spatial text mining approach to quantitatively analyse the ecological knowledge of local residents in the Hojobeol area of Shiheung City, in Korea. Lee argues that most traditional types of spatial planning, such as those currently used in Korea, adopt a top-down approach to assessing environmental spatial planning, led by experts rather than involving local residents with relevant ecological knowledge. The spatial text mining approach is helpful in terms of collecting, structuring, analysing and visualising unquantified discourse based on the frequency with which specific keywords appear. [Lee \(2022\)](#) uses different types of statistical and spatial analytical software, such as SPSS and ArcGIS, to explore the spatial features of local residents' ecological knowledge. This type of bottom-up method is able to shed new light on spatial planning in terms of the analysis of ecological resources, and could be widely used in other cities and/or countries. The spatial map showing the different ecological features could also be used as an environmental planning aid for policymakers and spatial planners.

The final paper, entitled '*Differences in perceptions of 'naturalness' among urban park user groups in Seoul*', written by [Kim and Son \(2022\)](#), uses an innovative approach, namely the Q methodology, which was originally developed by the psychologist William Stephenson in the early 20th century ([Stephenson, 1953](#)). The Q methodology combines both quantitative and qualitative methods, and in this case is applied to investigate individuals' subjective views about and perceptions of nature when visiting six urban parks featuring different types of landscapes and natural elements in Seoul (Seon-jeongneung; Seokchon Lake Park; Seoul Forest; West Seoul Lake Park; Boramae Park; and Seoul Olympic Park). This method is regarded as innovative because it constitutes a bottom-up approach that is used to explore individuals' perceptions of and judgements about the 'naturalness' of urban green spaces, mainly based on their previous experiences, individual preferences and their psychological make-up. The study's findings could help planners to better understand users' personal opinions, improve park amenities and facilitate spatial planning based on

people's preferences for certain types of landscape/features and attitudes towards urban parks.

3. CONCLUSIONS

To sum up, this special edition helps to enhance understanding of the changing frontiers of the new spatial planning paradigm from a theoretical and methodological development perspective in different geographical contexts and with regard to both urban and rural areas. The key findings and arguments derived from the spatial planning theories, principles and innovative methods applied in these papers can be generalised to a wider context beyond Asia.

A significant area for future research could involve exploring the public sector transition from the current top-down type of spatial planning strategy to a more market-oriented, bottom-up approach to planning, of the kind more commonly used in the private sector, in order to achieve a better balance between social, economic, and environmental change through the more effective spatial distribution of future activities. In addition, it is suggested that, in future research, more big data-driven applications and analytics, and/or combined quantitative and qualitative methods (e.g. Q methodology) could be applied to facilitate and address emerging spatial planning challenges over the next decade.

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