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## Editorial Introduction

### *Special Issue on “Ecological Planning”*

#### Guest Editors

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Sustainable spatial planning can be discussed in three categories based on the definition of sustainability; economic, social and ecological (environmental) aspects of planning. Therefore, having the perspective of ecological planning is a prerequisite to understanding all of the anthropogenic activities related to spatial development and conservation, at the local to global scales. To promote ecological planning concepts in practical cases, however, often faces conflict with economic and social benefits. This is the reason why our society still requires further evidence regarding the relevance of ecological planning and its way to incorporate with the existing planning context. This may be the responsibility of all researchers, planners, developers and administrators who are working with or for our environment.

In this issue, the selected seven articles demonstrate sustainable spatial planning research from the viewpoint of ecological planning. These articles are arranged by their variety of spatial and temporal scales, as it is by this means one of the most effective ways to clarify the complex environmental problems and diverse solutions related to ecological planning issues. The articles introduced in this issue cover spatially from an urban park to national level, and temporally from more than thirty years past to the simulated future state.

First, [Imanishi and Nakamura \(2019\)](#) focus on the advantages and challenges in a participatory management system at the urban park scale, with a questionnaire survey of joint venture activities in Japan. The joint ventures under an emerging designated administrative system were expected to improve the current park management in a more professional and sustainable way, by accumulating knowledge from various professional participants. These advantages are also crucial in advancing the ecological function of urban parks. Therefore, communication among various stakeholders is important in park-scale ecosystem management.

[Li, Y. and Song \(2019\)](#) study the ecological function of the urban park in terms of micro-climate mitigation under hot summer conditions. Based on measurement and simulation results depending on a couple of plantation scenarios in the park, authors illustrated the spatial distribution of micro-climate mitigation functions and the effect of canopy structure. It is important to find the optimal green structure for maximizing ecosystem function, especially in the urban area as it is hard to create new large green space in the urban area. The solution then to increase urban ecosystem function may be to upgrade the structure of existing urban green spaces. By modifying canopy structure in the

urban park, the role of the green space with its local ecological functions can be increased.

At a lake scale, [Luo \(2019\)](#) challenges the management planning of West Lake in Hangzhou, China, focusing on harmonizing the multiple functions of the lake environment and its ecological restoration. The lake was faced with complex planning problems across fragmented spatial scales for the use of the lake water resources. Therefore, the site was required to build an improved plan for restoring environmental quality of the lake, by restoring ecological processes not only at each problematic part of the lake but also at the scale of the whole watershed. Based on the successful restoration and progress of the lake ecosystem since 2001, the authors emphasize the multi-spatial scale approach, especially in restoring the ecological function and services at the regional level.

Also, in the case study of Upo Wetland, the largest inland wetland of Korea, [Jun, Lee, and Son \(2019\)](#) clarify the role of the local society in the sustainable management of the region. By arguing the results of cognitive mapping by local people, the authors underline the potential for collaborating with the local people in the management process; monitoring ecological threats, acting immediately, and finding the best solution. On the other hand, the authors also describe that there were conflicting points of view among the local people even in regard to similar conservation actions. This kind of governance process is important consider when a local society is included in conducting conservation actions, especially for these kinds of large-scale ecosystem areas.

At the larger scale, [Li, S., Leng, and Yuan \(2019\)](#) attempts to illustrate a harmonized ecological planning way among farms and towns in regional development, with a case study of Heilongjiang, China. This article focuses on the application of a symbiotic theory concept to build a spatial and structural arrangement of land-use mosaics with farms and towns, in an ecological way. The symbiotic model is useful in finding a harmonized solution not only in the spatial planning itself but also in social relationships among the various types of residents. The authors propose how to apply this symbiotic system concept in a more practical way with the use of a study site, pointing out the limitations remaining.

At the national scale, [Min, Son, and Furuya \(2019\)](#) studied the Baekdudaegan mountain ranges of Korea, in terms of designating transition areas based on the UNESCO Man and the Biosphere Programme (MAB) Biosphere Reserve (BR) framework. For such large-scale ecological planning, various cultural aspects of local people should be considered. The authors attempt to find an acceptable common logic for zoning the BR transition area through experts' participation. The finding suggests that systematic zoning considers watershed, resident and local resource types could hold the solutions to such a comprehensive planning challenge at the national scale.

The last article by [Feng et al. \(2019\)](#) is about the increasing trend of international publications related to the topic of ecological planning in recent years. Based on the trend analysis and visualized bibliometrics, the authors demonstrate that Chinese society has been playing a key role in academic cooperation for ecological planning studies around the world, and Asian countries are expected to contribute to this study field more in future. Thus, this journal issue is notable as a slice of the current trend in ecological planning studies within international academia. The keyword analysis of this article summarizes the upcoming trend in ecological planning studies by listing the emerging keywords, such as ecosystem service, resilience, or ecological network, as well as the global environmental challenges, such as climate change or biodiversity. These keywords are highlighting the scope of ecological

planning in future, and clarify the contribution of an ecological perspective to the successful sustainable planning of the future.

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