

Strategies for Sustainability

Series Editors

Lawrence Susskind

Ravi Jain

For further volumes:

<http://www.springer.com/series/8584>

Strategies for Sustainability

Aims and Scope

The series, will focus on “implementation strategies and responses” to environmental problems – at the local, national, and global levels. Our objective is to encourage policy proposals and prescriptive thinking on topics such as: the management of sustainability (i.e. environment-development trade-offs), pollution prevention, clean technologies, multilateral treaty-making, harmonization of environmental standards, the role of scientific analysis in decision-making, the implementation of public-private partnerships for resource management, regulatory enforcement, and approaches to meeting inter-generational obligations regarding the management of common resources. We will favour trans-disciplinary perspectives and analyses grounded in careful, comparative studies of practice, demonstrations, or policy reforms. We will not be interested in further documentation of problems, prescriptive pieces that are not grounded in practice, or environmental studies. Philosophically, we will adopt an open-minded pragmatism – “show us what works and why” – rather than a particular bias toward a theory of the liberal state (i.e. “command-and- control”) or a theory of markets.

We invite Authors to submit manuscripts that:

Prescribe how to do better at incorporating concerns about sustainability into public policy and private action.

Document what has and has not worked in practice.

Describe what should be tried next to promote greater sustainability in natural resource management, energy production, housing design and development, industrial reorganization, infrastructure planning, land use, and business strategy.

Develop implementation strategies and examine the effectiveness of specific sustainability strategies. Focus on trans-disciplinary analyses grounded in careful, comparative studies of practice or policy reform.

Provide an approach “. . .to meeting the needs of the present without compromising the ability of future generations to meet their own needs,” and do this in a way that balances the goal of economic development with due consideration for environmental protection, social progress, and individual rights.

The Series Editors welcome any comments and suggestions for future volumes

SERIES EDITORS

Lawrence Susskind
susskind@mit.edu

Professor Ravi Jain
rjain@pacific.edu

Mitsuhiko Kawakami • Zhen-jiang Shen
Jen-te Pai • Xiao-lu Gao • Ming Zhang
Editors

Spatial Planning and Sustainable Development

Approaches for Achieving Sustainable
Urban Form in Asian Cities

 Springer

Editors

Mitsuhiko Kawakami
Kanazawa University
Kanazawa, Ishikawa
Japan

Zhen-jiang Shen
Kanazawa University
Kanazawa, Ishikawa
Japan

Jen-te Pai
Chengchi University
Taipei, Taiwan

Xiao-lu Gao
Institute of Geographic Sciences and Natural
Resources Research
Chinese Academy of Sciences
Beijing, China

Ming Zhang
School of Architecture
University of Texas at Austin
Austin, Texas, USA

ISBN 978-94-007-5921-3

ISBN 978-94-007-5922-0 (eBook)

DOI 10.1007/978-94-007-5922-0

Springer Dordrecht Heidelberg New York London

Library of Congress Control Number: 2013931118

© Springer Science+Business Media Dordrecht 2013

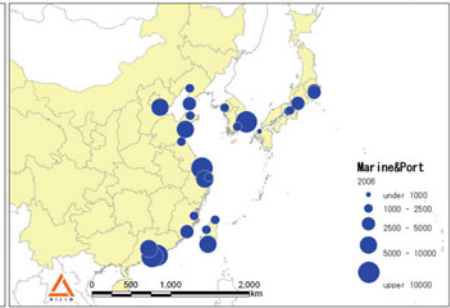
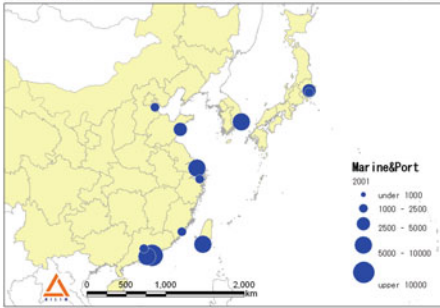
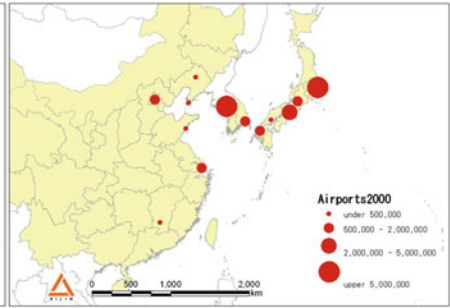
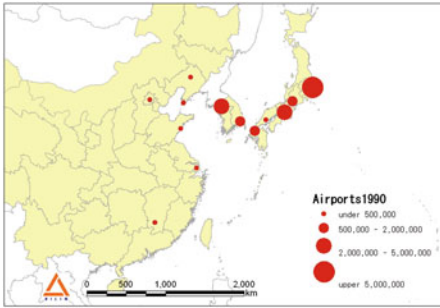
This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)



Preface on Behalf of the Editors

Researchers across the world are concerned with sustainable urban forms, and this field is particularly significant for policy planners aiming for sustainable and smart growth. This book investigates the impact of policy on sustainable urban forms through spatial planning implementation, which has been examined by analyzing Asian planning experiences from a multidisciplinary viewpoint that involves different professional planning in various fields, such as land use, transportation, geography, and environment.

Sustainable urban form represents the objectives of spatial planning and relevant policies. For example, the compact city, one of the concepts of sustainable urban form with a high density of urban settlements, has revitalized central city areas, and mixed land use has been widely accepted in Europe, North America, and Asia. Urban form is a result of the interactions between stakeholders using spatial planning and relevant planning policies and considering economic, social, and ecological aspects. Private investors are always competing for low cost and high profit; thus, the land demand of such private sectors as industries, shopping malls, and housing development projects tends to be located at the urban fringes, thereby resulting in urban sprawl. In this book, the authors argue that sustainable urban form is possible under effective urban policies in the process of spatial planning implementation. “Public policy” in this book refers broadly to government actions in planning and implementation.

Overall, this book attempts to provide insight on achieving sustainable urban form by focusing on planning practices at the city level and certain metropolitan areas in different Asian countries. Currently, some cities in developing countries are experiencing rapid urban growth, whereas many cities in developed countries are experiencing urban decline because of depopulation and an aging society. We can attempt to learn from both sides in order to achieve sustainable urban forms that employ a multidisciplinary approach, considering natural resources, aging societies and population transformations, housing developments, transportation and land use, and landscapes.

Although local governments have made many efforts to implement the compact city concept in many of the developed cities of Japan and South Korea, urban

sprawl has substantially influenced city form. In order to find a sustainable urban form in the developing period, many developing Asian cities nowadays are learning from the experiences of their European counterparts. However, most of the cities in developing Asian countries, such as those in China, still pay more attention to economic development and physical planning, following the history of urban sprawl in European, US, or Asian developed cities. Therefore, conflicts are emerging between economic extension and compact urban areas in Asian cities. In such situations, we believe that effective planning policies are necessary for reaching a sustainable urban form.

Public planning policies are important in achieving sustainable urban form and controlling urban sprawl in both developing and developed countries. For cities experiencing urban growth, it is important for local governments to set demand allocation patterns, such as for industry, housing, and transportation. Meanwhile, setting the balance between social and ecological quality in the economic development process is an important task of local governments. For those cities undergoing urban decline, it is important for city governments to make effective decisions on public planning policies in order to prevent decreasing population, to improve urban regeneration, and to increase centrality. It is also important to introduce a new public transportation system for improving access to downtown areas. Moreover, cooperation between public actors and the private sector is important for using new advanced environmental technology to improve ecological functions in dense urban areas.

We have organized this book into five parts. The first two parts concern urbanization and sustainable society, and the following three parts deal with landscaping and ecological systems for sustainable development.

In the first two parts, we focus on planning issues regarding urbanization and de-urbanization. In Part I (Urbanization and Planning Approaches) and Part II (Housing and Transportation), policy measures in planning and design are taken as important tools to achieve sustainable urban form.

In Part I, we see that through decades of urban development, the local cities in developed Asian countries are now experiencing urban decline from large-scale development projects on the urban fringe—namely, urban sprawl. Spatial strategies for improving centrality and increasing population in urban areas are taken into account for preventing this trend. We have focused on planning issues in downtown areas with advanced depopulation and aging societies resulting from urban sprawl. We have also introduced some planning practices to decrease the negative influences of urban decline, such as urban regeneration by implementing appropriate design guidelines and developing urban facilities for aging societies. On the other hand, in developing countries where approaching urban development with economic growth leads to exploitation and use of natural resources in excess, public efforts for spatial planning are expected to encourage an environmentally friendly development in order to improve sustainable society.

In the next part, we focus on public policies regarding housing and transportation. Housing policies are challenged against a background of rapid urbanization. Many traditional dwellings have been abandoned in favor of flat roof houses; meanwhile, traditional culture is absent. This part tries to explore a sustainably oriented housing

development, while keeping traditional society in the historical areas. On the other hand, we also suggest pursuing housing policies through enriching the methodology for predicting housing demand patterns.

Research has recently been carried out on strategies whereby public transportation system can provide a solution for traffic congestion in urban areas. In this part, we do not include these popular transportation topics. Rather, we present some unique and new ways to achieve a low-carbon transport society; for example, we are interested in representative technological innovation, such as personal mobility vehicles (PMV). We investigate the significant sociopsychological factors that can influence the acceptance of PMVs in society so that public policy may be formed on the application of PMVs. We also examine the advantages of bicycle transportation and conduct a city-wide evaluation of the walking accessibility and bus availability of urban facilities and public transit; walking and bicycle transportation are now considered as completely pollution-free methods.

Policy makers have now found that urban transportation energy as the main part of urban energy consumption has a strong relationship with urban form. We attempt to develop some tools for evaluating plan alternatives in terms of transportation energy consumption. A theoretical model is introduced by our colleagues in this stage, which is likely to be applied in the Beijing metropolitan area.

The remaining three parts consider environment and ecological issues: Part III (Green Design and Landscape), Part IV (Agricultural and Ecological Systems), and Part V (Urban Vulnerability).

Part III looks at local governments' support for the development of new green technologies, such as green curtains and green roof systems for improving the urban thermal environment and reducing CO₂ emissions. Under such local environmental policies, some case studies show the benefits of green technologies for ecological functioning and urban landscape in dense urban areas of Japan. However, because environmental planning and urban planning are separated in most planning systems in Asian countries, even in developed countries, we attempt to argue that integration of environmental planning, including ecological vulnerability, with urban planning, is very important. Additionally, we describe a system framework for assessment and regulation of ecological security when implementing urban planning.

In Part IV, on agricultural and ecological systems, we show that rapid economic growth and urbanization have led to a series of resource and environmental problems. We discuss the existing agricultural status and environmental impact and propose new agricultural planning and policies whereby agriculture may not only exert its production functions but also fulfill landscape and ecological functions for making a more comfortable and sustainable living environment. In terms of spatial planning to deal with these issues, spatial indicators that reflect the patterns of land use and social patterns, such as land ownership, are very useful for achieving sustainable landscape management. We present some case studies in which geospatial techniques were used as new planning tools that played an important role in the spatial planning process.

Finally, the perspective switches from ecology back to urban systems. The part on urban vulnerability shows that, during urban or economic development with its consequent competition for land, vulnerability to urban systems floods, drought, and pollution has become a widespread concern. We recommend establishing a pragmatic overall index in order to increase the number of reference values for disaster assessments and disaster preventions based on spatial planning and relevant planning policies.

In the introduction to this book, we argue that public efforts are important in all case studies, from planning and design to policy-making. The key contribution of the book concerns the role of public actors in implementing spatial planning. The sustainable urban form is examined according to different scales—such as the human, urban structure, landscape and ecological structure, and global scales—which are related to planning and design issues at the national, regional, and urban levels.

School of Environmental Design,
Kanazawa University, Japan

Mitsuhiko Kawakami
and Zhen-jiang Shen

Acknowledgement

We would like to express our deep appreciation to all the authors, each of whom is from the International Community of Spatial Planning and Sustainable Development, for their outstanding contributions to this book. We are also indebted to the series editors of *Strategies for Sustainability*, Professors Lawrence Susskind and Ravi Jain, for their kind invitations and encouragement, and to Dr. Tamara Welschot and Mrs. Judith Terpos of Springer, for their kind editorial work and help in publishing within a book a diversity of topics pertaining to “Spatial planning and sustainable development: Approaches for Achieving Sustainable Urban Form in Asian Cities.”

We are also deeply indebted to our colleagues Dr. Kyung-rock Ye and Dr. Ryosuke Ando, whose help and stimulating suggestions helped us in soliciting contributions from a variety of interdisciplinary fields. Special thanks go to Professor Qi-zhi Mao of Tsinghua University; Professor Yi Liu of the Institute of Geographic Sciences and Natural Resources Research (Chinese Academy of Sciences), Mainland China; and Professor Cheng-ming Feng of Jiaotong University, Professor Chian-yuan Lin of Taiwan University, Taiwan, for their efforts in supporting the International Community of Spatial Planning and Sustainable Development.

Editors

Mitsuhiko Kawakami
School of Environmental Design
Kanazawa University,
Kakuma Machi, Kanazawa City,
Japan, 920-1192
kawakami@t.kanazawa-u.ac.jp
Tel.: 0081-76-234-4914

Zhen-jiang Shen*
School of Environmental Design
Kanazawa University,
Kakuma Machi, Kanazawa City,
Japan, 920-1192
shenzhe@t.kanazawa-u.ac.jp
Tel.0081-76-234-4650

Jen-te Pai
School of Social Science
Chengchi University, 64, Sec. 2
Chinan Rd. Taipei, Taiwan
brianpai@nccu.edu.tw
Tel. 00886-2-29393091-51663

Xiao-lu Gao
Institute of Geographic Sciences and
Natural Resources Research,
Chinese Academy of Sciences
11A, Datun, Chaoyang, Beijing,
China
gaoxl@igsnr.ac.cn
Tel. 0086-10-64889075

Ming Zhang
School of Architecture
University of Texas
at Austin
Austin, TX 78712,
U.S.A.
zhangm@mail.utexas.
edu
Tel.001-512-471-0139

*Corresponding editor

About the Editors

Mitsuhiko Kawakami is a Professor at the School of Environmental Design, Kanazawa University, Kanazawa City, Japan. Dr. Kawakami serves as Chairperson of the Urban Planning Committee and the Land Use Committee of Ishikawa Prefecture, Advisor of Urban Planning for Kanazawa City, and Director of the Kanazawa Citizens' Research Organization. He also serves as the Commissioner of Urban Planning and Design at the Architectural Institute of Japan and a Councilor of the City Planning Institute of Japan. His research interests include land-use planning, housing planning, planning support systems, and environmental design. He is the main investigator of a number of historical conservation projects in Kanazawa City that support local policy decision-making on urban conservation. He also participated in the revision of Kanazawa's Master Plan and a diversity of urban projects. Recently, Dr. Kawakami was selected as the President of the nonprofit organization Kanazawa Traditional House (Machiya).

Zhen-jiang Shen is a Professor at the School of Environmental Design, Kanazawa University, Kanazawa City, Japan. His research interests include the urban policy of China, decision support systems for planning, and design through the use of GIS and VR. Recently, Dr. Shen has been collaborating with the Beijing Municipal Commission of Urban Planning for research on metropolitan growth simulation. He has also served as an Advisor of urban planning in local cities within Ishikawa Prefecture, Japan. In planning practice, he has also participated in a diversity of urban projects, including an early-stage historical conservation plan for Beijing, which won the second prize awarded by the Ministry of Construction, China, in 1987. In 2010, he won the Heritage Conservation Award, Region IV, UIA (International Union of Architects) for his work on historical landscape visualization for traditional temple-building preservation, in Kanazawa, Japan.

Jen-te Pai is an Associate Professor at the National Cheng Chi University in Taiwan and also serves as the Secretary-General of the Taiwan Institute of Urban Planning. He received a Ph.D. degree from National Taiwan University and worked as a government officer in the Ministry of Transportation and Communication.

His teaching and research areas include urban and regional planning, urban design, industrial cluster analysis, and disaster-prevention planning.

Xiao-lu Gao is a Professor at the Institute of Geographic Sciences and Natural Resources Research at the Chinese Academy of Sciences and Vice Director of the Key Laboratory of Regional Sustainable Development Modeling, Chinese Academy of Sciences. She holds a Bachelor's Degree in architecture and a Master's Degree in city planning and design, both from Tsinghua University, as well as a Ph.D. in urban engineering from the University of Tokyo. As an urban planner and geographer, her research interests include urban and regional development policies, urban and housing analysis, the evaluation of urban environments, and the construction of planning support systems. In recent years, she has published a number of research papers in a number of geographical and planning journals, including *Urban Studies*, *Landscape and Urban Planning*, *Land Use Policy*, *Journal of Geographical Sciences*, *Environment and Planning B and C*, *Housing Studies*, and *Habitat International*.

Ming Zhang is tenured Associate Professor and Graduate Advisor in the Community and Regional Planning Program at the University of Texas, Austin. He specializes in planning for land use–transportation integration, GIS applications, and planning in an international setting. Prior to joining UT, Austin, Dr. Zhang held several academic and professional positions, including tenure-track Assistant Professor in the Department of Landscape Architecture and Urban Planning, at Texas A&M University; Research Scientist at the Rockefeller Institute of Government in Albany, New York; and Lecturer and licensed Planner/Architect at the Huazhong (central China) University of Science and Technology, Wuhan, China. Dr. Zhang has published research papers in the *Journal of the American Planning Association*, *Journal of Planning Education and Research*, and *Urban Studies*.

Contents

1 Overview: Spatial Planning for Achieving Sustainable Urban Forms	1
Zhen-jiang Shen and Mitsuhiro Kawakami	
Part I Urbanization and Sustainable Society: Section Urbanization and Planning Approach	
2 The Possibility of Sharing Spatial Data and Research Cooperation Within East Asia Countries: For Sustainable and Balanced Regional Growth	15
Kyung-rock Ye	
3 A Study on Classification of Downtown Areas Based on Small and Medium Cities in Korea	33
Bum-hyun Lee	
4 Significance and Limitations of the Support Policy for Marginal Hamlets in the Strategy of Self-sustaining Regional Sphere Development	51
Ryohei Yamashita and Tomohiro Ichinose	
5 Continuity of Relations Between Local Living Environments and the Elderly Moved to a Group Living	69
Tatsuya Nishino	
6 The Use of Indicators to Assess Urban Regeneration Performance for Climate-Friendly Urban Development: The Case of Yokohama Minato Mirai 21	91
Osman Balaban	

7 Imagination and Practice of Collaborative Landscape, Ecological, and Cultural Planning in Taiwan: The Case of Taichung County and Changhua County 117
 Li-wei Liu and Pei-yin Ko

Part II Urbanization and Sustainable Society: Section Housing and Transportation

8 Sustainable-Oriented Study on Conservation Planning of Cave-Dwelling Village Culture Landscape 137
 An-rong Dang, Yan Zhang, and Yang Chen

9 Characteristic of Sustainable Location for Townhouse Development in Bangkok and Greater Metropolitan Area, Thailand 155
 Siwaporn Klimalai and Kiyoko Kanki

10 Modeling Housing Demand Structure: An Example of Beijing 173
 Xiao-lu Gao

11 The Role of the Knowledge Community and Transmission of Knowledge: A Case of Bicycle SMEs in Taiwan 189
 Jen-te Pai and Tai-shan Hu

12 Acceptability of Personal Mobility Vehicles to Public in Japan: Results of Social Trial in Toyota City 213
 Ryosuke Ando, Ang Li, Yasuhide Nishihori, and Noriyasu Kachi

13 Urban Form, Transportation Energy Consumption, and Environment Impact Integrated Simulation: A Multi-agent Model 227
 Ying Long, Qi-zhi Mao, and Zhen-jiang Shen

14 Mapping Walking Accessibility, Bus Availability, and Car Dependence: A Case Study of Xiamen, China 249
 Hui Wang

Part III Landscape and Ecological System, Sustainable Development: Section Green Design and Landscape

15 Effects of Green Curtains to Improve the Living Environment 271
 Masashi Kato, Tsukasa Iwata, Norimitsu Ishii, Kimihiro Hino, Junichiro Tsutsumi, Ryo Nakamatsu, Yoshitaka Nishime, Koji Miyagi, and Masakazu Suzuki

16 A Comparison of Green Roof Systems with Conventional Roof for the Storm Water Runoff 287
 Sachiko Kikuchi and Hajime Koshimizu

17 Evaluation and Regulation of Ecological Security When Implementing Urban Planning: Review and Suggestions for Spatial Planning and Sustainable Development in China 305
 Lin-yu Xu and Zhi-feng Yang

Part IV Landscape and Ecological System, Sustainable Development: Section Agriculture and Ecological System

18 An Investigation of Changes in the Urban Shadow of Beijing Metropolis Under Agricultural Structural Adjustment in China 325
 Dai Wang, Yue-fang Si, Wen-zhong Zhang, and Wei Sun

19 The Spatial Planning of Agricultural Production in Beijing Toward Producing Comfortable and Beautiful Living Environment 339
 Feng-rong Zhang and Hua-fu Zhao

20 Simplified Ecological Planning Method for Sustainable Landscape Management by *Humantope Index*: Patterns of Land-Use Continuity, Historical Land Use and Landownership 353
 Misato Uehara

21 Land Cover Analysis with High-Resolution Multispectral Satellite Imagery and Its Application for the CO₂ Flux Estimation 381
 Jung-Rack Kim, Shih-Yuan Lin, Eun-Mi Chang, In-Hee Lee, and He-Won Yun

Part V Landscape and Ecological System, Sustainable Development: Section Vulnerability of Urban System

22 Taiwan’s Five Major Metropolitan Areas of Taiwan Vulnerability Assessment of Flood Disaster Comparison Study 401
 Jen-te Pai

23 The Post-Disaster Reconstruction and Socioeconomic Vulnerabilities in the Historical Site of an Island City: A Case Study of a Fire Incident in Nan-Gan Township, Lien-Chiang County, Taiwan 417
 Chi-tung Hung, Wen-yen Lin, and Ju-yin Cheng

24 Sustainable Communities in Hilly, Mountainous and Heavy Snowfall Areas 431
 Asako Yuhara and Kyung-rock Ye

25 A Vulnerability Study from Water Perspective on the Largest City of China 443
 Guang-wei Huang and Zhen-jiang Shen

Index 455

Contributors

Ryosuke Ando Research Department, Toyota Transportation Research Institute, Toyota, Aichi, Japan

Osman Balaban Institute of Advanced Studies, United Nations University, Yokohama, Japan

Eun-Mi Chang Ziin Consulting Inc., Jongno, Seoul, South Korea

Yang Chen School of Architecture, Tsinghua University, Haidian District, Beijing, China

Ju-yin Cheng Department of Urban Development, Taipei City Government, Xinyi District, Taipei City, Taiwan

An-rong Dang School of Architecture, Tsinghua University, Haidian District, Beijing, China

Xiao-lu Gao Key Laboratory of Regional Sustainable Development Modeling, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Chaoyang, Beijing, China

Kimihiko Hino Department of Housing and Urban Planning, Building Research Institute, Tsukuba City, Ibaraki Prefecture, Japan

Tai-shan Hu Department of Architecture and Urban Planning, Chung Hua University, Hsinchu, Taiwan

Guang-wei Huang Sophia University, Chiyoda-ku, Tokyo, Japan

Chi-tung Hung Department of Urban Planning and Disaster Planning, Ming Chuan University, Guishan Township, Taoyuan County, Taiwan

Tomohiro Ichinose Department of Environment and Information Studies, Keio University, Fujisawa, Kanagawa, Japan

Norimitsu Ishii Department of Housing and Urban Planning, Building Research Institute, Tsukuba City, Ibaraki Prefecture, Japan

Tsukasa Iwata Department of Housing and Urban Planning, Building Research Institute, Tsukuba City, Ibaraki Prefecture, Japan

Noriyasu Kachi Research Department, Toyota Transportation Research Institute, Aichi, Toyota, Japan

Kiyoko Kanki Graduate School of Engineering, Kyoto University, Nishikyo-ku, Kyoto, Japan

Masashi Kato Department of Housing and Urban Planning, Building Research Institute, Tsukuba City, Ibaraki Prefecture, Japan

Mitsuhiko Kawakami School of Environmental Design, Kanazawa University, Kakuma Machi, Kanazawa City, Japan

Sachiko Kikuchi Graduate School of Life Sciences, Tohoku University, Aoba-ku, Sendai, Japan

Jung-Rack Kim Department of Geoinformatics, University of Seoul, Dongdaemun-gu, Seoul, South Korea

Siwaporn Klimalai Graduate School of Engineering, Kyoto University, Nishikyo-ku, Kyoto, Japan

Pei-yin Ko Department of Urban Planning and Spatial Information, Feng Chia University, Seatwen, Taichung, Taiwan

Hajime Koshimizu School of Agriculture, Meiji University, Tamaku, Kawasaki, Japan

Bum-hyun Lee Korea Research Institute for Human Settlement, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea

In-Hee Lee Department of Environment and Ecology Research, Chungnam Development Institute, Yonesuwon-gil, Gong-Ju, Chungcheongnamdo, South Korea

Ang Li Urban Transport Center, Ministry of Housing and Urban-Rural Development, China

Shih-Yuan Lin Department of Land Economics, National Chengchi University, Wenshan District, Taipei, Taiwan

Wen-yen Lin Department of Urban Planning and Disaster Planning, Ming Chuan University, Guishan Township, Taoyuan County, Taiwan

Li-wei Liu Department of Urban Planning and Spatial Information, Feng Chia University, Seatwen, Taichung, Taiwan

Ying Long Beijing Institute of City Planning, Beijing, China

Qi-zhi Mao School of Architecture, Tsinghua University, Haidian District, Beijing, China

Koji Miyagi Ocean Expo Research Center, Motobu-chom Okinawa Prefecture, Japan

Ryo Nakamatsu Department of Civil Engineering and Architecture, University of Ryukyus, Nishihara-cho, Okinawa Prefecture, Japan

Yasuhide Nishihori Chubu Branch, Chuo Fukken Consultants Co. Ltd, Nagoya, Japan

Yoshitaka Nishime Ocean Expo Research Center, Motobu-cho, Okinawa Prefecture, Japan

Tatsuya Nishino School of Environmental Design, Kanazawa University, Kakuma Machi, Kanazawa City, Japan

Jen-te Pai Department of Land Economics, National Chengchi University, Wenshan District, Taipei City, Taiwan

Zhen-jiang Shen School of Environmental Design, Kanazawa University, Kakuma Machi, Kanazawa City, Japan

Yue-fang Si Department of Economic Geography, Justus-Liebig-University Giessen, Giessen, Germany

Wei Sun Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Chaoyang District, Beijing, China

Masakazu Suzuki Faculty of Arts and Design, University of Tsukuba, Tsukuba City, Ibaraki Prefecture, Japan

Junichiro Tsutsumi Department of Civil Engineering and Architecture, University of Ryukyus, Nishihara-cho, Okinawa Prefecture, Japan

Misato Uehara Department of Forest Science, Shinshu University, Nagano, Japan

Dai Wang Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Chaoyang District, Beijing, China

Hui Wang Department of Urban Planning, Xiamen University, Xiamen, China

Cross-Straits Institute of Urban Planning at Xiamen University, Xiamen University, Xiamen, China

Lin-yu Xu State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Beijing Normal University, Haidian District, Beijing, China

Ryohei Yamashita Tokyo University of Science, Yamazaki, Noda, Chiba, Japan

Zhi-feng Yang State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Beijing Normal University, Haidian District, Beijing, China

Kyung-rock Ye Graduate School of Frontier Sciences, The University of Tokyo, Bunkyo District, Tokyo, Japan

Asako Yuhara National Institute for Land and Infrastructure Management, Tsukuba, Ibaraki, Japan

He-Won Yun Department of Geoinformatics, University of Seoul, Dongdaemun-gu, Seoul, South Korea

Feng-rong Zhang College of Resources and Environmental Sciences, China Agricultural University, Haidian District, Beijing, China

Wen-zhong Zhang Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Chaoyang District, Beijing, China

Yan Zhang School of Architecture, Tsinghua University, Haidian District, Beijing, China

Hua-fu Zhao College of Land Science and Technology, China Geosciences University, Haidian District, Beijing, China