A SEMINAR REPORT FROM THE EAST-WEST CENTER

Changing Cities

Linking Global Knowledge to Local Action

Asia-Pacific-U.S. URBAN DIALOGUE

EAST-WEST CENTER
COLLABORATION • EXPERTISE • LEADERSHIP

A SEMINAR REPORT FROM THE EAST-WEST CENTER

Changing Cities

Linking Global Knowledge to Local Action

A seminar co-convened by the East-West Center
and the Penn Institute for Urban Research, University of Pennsylvania

Hawai‘i Imin International Conference Center
East-West Center
Honolulu, Hawai‘i USA
26–28 September 2011

A summary report edited by

Meril Dobrin Fujiki
Seminars Development Coordinator, East-West Center Seminars

Rebecka Arbin
East-West Center Graduate Degree Fellow,
Department of Urban and Regional Planning, University of Hawai‘i at Mānoa

EAST-WEST CENTER
COLLABORATION • EXPERTISE • LEADERSHIP

Asia-Pacific-U.S. URBAN DIALOGUE

The Asia-Pacific-U.S. Urban Dialogue examines the complex human costs of urbanization and effective responses to the unprecedented political, economic, socio-cultural, ecological, and physical transformations taking place in the metropolitan areas of Asia, the Pacific, and the United States. The program's distinctive approach includes:

- **Small roundtable dialogues** that encourage lively and frank peer-to-peer exchanges on current trends, key issues, and best policy options for managing the urban transition
- **A diverse, high-level group** of city leaders, policymakers, urban planners, civil society and business leaders, experts and scholars, who are invited to share their ideas, experiences, and strategic visions for creating more liveable cities of the future
- **Interdisciplinary, multicountry** examination of critical concerns and innovative solutions that provide participants with a common understanding of urban challenges faced across Asia and in the West
- **Three-day seminar** on the relaxed and informal campus of the East-West Center in Honolulu, Hawai'i, USA

To date, three seminars have been organized:

Changing Cities: Linking Global Knowledge to Local Action examined ways to more effectively disseminate global knowledge on best practices aimed at driving resilient and inclusive urban development. September 2011

Urbanization Policy in an Uncertain Economy explored the impacts of complex urbanization policies in times of local and global economic uncertainty. March 2010

The Urban Transformation in Asia: Policy Implications of Decentralization investigated urban governance challenges related to decentralization policies, strategies, and institutional frameworks. August 2008

For information about the program, please see our website or contact us via email:

EastWestCenter.org/urbandialogue
Seminars@EastWestCenter.org

 The price per print copy is $10.00 plus shipping. The report is also available as a free PDF on the East-West Center website. For information on ordering print copies, for permissions, or for other inquiries regarding the report please contact:

Publication Sales Office
1601 East-West Road, Honolulu, Hawai'i 96848-1601
Tel.: 808.944.7145 Fax: 808.944.7376 EWCbooks@EastWestCenter.org

EastWestCenter.org/Publications

TABLE OF CONTENTS

Preface

For over fifty years, the East-West Center has brought together policymakers and scholars from the United States and Asia to **exchange views on issues of mutual concern, develop a common understanding, and discuss policy options**

One of the most dramatic demographic trends in the contemporary Asia Pacific region is the rapid growth of urban areas. Urban environments provide enormous social opportunities and economic efficiencies. But the speed of urbanization creates severe strains on Asia's urban administrative systems as they strive to respond to new political, economic, social, and environmental challenges. Often fragmented or overlapping governance structures have greatly complicated these responses.

For over fifty years, the East-West Center has brought together policymakers and scholars from the United States, Asia, and the Pacific to develop a common understanding of issues of mutual concern and to exchange views and experiences for the purpose of strengthening policy responses. In September 2011, the Center convened its third seminar of city mayors and other high-level government leaders, planning officials, and urban specialists to discuss the growing challenges to urban governance. The seminar examined the process of knowledge transfer between and among policymakers, practitioners, and experts as a critical tool for adapting innovations and promising practices in sustainable urban development.

This report, **Changing Cities: Linking Global Knowledge to Local Action**, provides a summary of the group's discussions. The report consists of the views of individual participants, but to facilitate uninhibited discussion, it adheres to the Chatham House Rule in not attributing these to particular contributors. We present the report as both a record of a rich seminar and to help inform a broader public of the participants' views. The East-West Center intends to convene future activities around other issues associated with urbanization trends.

Charles E. Morrison
President
East-West Center

INTRODUCTION TO THE SEMINAR

The Rapid Growth of Cities

Across the world a massive demographic shift is underway. For the first time in human history, more people now live in cities than in rural areas. In the next 20 years, the world's population will grow from 7 billion to more than 8 billion people. The urban population will grow even faster, from 3.5 billion to 5 billion. Complex demographic and economic trends are propelling people into this new urbanized world, where hundreds of cities will be built and expanded to accommodate migration and growth—particularly in Asia.

The rapid transformation of cities and towns into massive urban megaregions has created unprecedented political, economic, socio-cultural, ecological, and physical changes. National and local governments, the private sector, and civil society are today facing a sense of urgency as they work to adapt, innovate, and prepare to accommodate the future billions in sustainable, efficient, and inclusive cities that can foster productivity and continued economic growth.

This surge in urbanization is forcing a rethinking of the relationship between national and local governments and creating new power centers outside of the traditional political hierarchy. The rapid growth of megacities and mid-size cities has strained existing urban administrative systems, which are struggling to respond to new challenges in virtually every aspect of human organization. Government, civil society, and corporations must all take a new look at urban planning strategies, infrastructure, lifestyles, welfare needs, employment, housing, transportation, health care, food, shelter, and basic social interactions. They must learn to more effectively work collaboratively and adapt and innovate to solve the problems of today while simultaneously preparing for future growth. Their achievements will largely define the 21st century.

The Need for Cooperation and Mutual Learning

Knowledge Dissemination as a Critical Tool for Managing Urban Development through Innovation and Best Practice

The creation of more resilient and inclusive urban environments over the next century will require the widespread dissemination and adaptation of good practice, innovative policy options, and a growing stock of knowledge that has already appeared or is near emergence.

There has already been a surge of creative strategies to deal with the consequences of rapid metropolitan development. Forced to find ways to make things work, many cities and their partners, including grassroots, corporate, and philanthropic organizations, have been resourceful in meeting increased urban service demand, managing growth, and improving municipal governance. These approaches include the implementation of bus rapid transit systems, mapping informal settlements through GIS systems, creating low-cost waste disposal, instituting innovative mechanisms to support inclusive governance, and crafting effective public-private partnerships.

Recognizing the urgent need to accelerate cooperation and mutual learning among cities, many local, national, and international city-based associations are focusing on new means to facilitate knowledge exchange. In addition, grassroots groups, often funded by international foundations, are developing programs to enhance urban living, especially in informal settlements. Global private corporations, which see cities as a new customer class, are finding novel applications for advanced technologies in information management, service delivery, and communications. Journalists are beginning to serve a new role in assisting with the transmission of this knowledge, and scholars are putting forth new means to translate theoretical findings into practical applications.

While these efforts are energetic, there remain a host of institutional barriers that stand in the way of widespread dissemination of information that can address urban problems. Improving the mechanisms for knowledge exchange is key to enabling cities to actively adapt and implement promising policies and practices tailored to their local contexts.

Changing Cities: Linking Global Knowledge to Local Action

The East-West Center and the Penn Institute for Urban Research co-convened a three-day seminar to explore ways to more effectively disseminate knowledge on best practices in sustainable urban development

In September 2011, the East-West Center and the Penn Institute for Urban Research, University of Pennsylvania, with a generous contribution from The Rockefeller Foundation, co-convened a three-day seminar, **Changing Cities: Linking Global Knowledge to Local Action,** at the East-West Center in Honolulu, Hawai‘i, USA. The seminar explored ways to more effectively disseminate knowledge on best practices aimed at driving resilient and inclusive urban development across Asia and in the West. The seminar was organized around five key areas of urban policy and practice: (1) planning and land use, (2) energy and transportation, (3) economic growth, (4) water and public health, and (5) governance and management.

Seminar Participants

A small but diverse group of urbanization experts was invited to participate in the seminar. The interdisciplinary, multicountry group included current and former city mayors; national, state, and local government policymakers; key civil society and business leaders; urban planners; and urbanization experts and scholars. Complete biographical notes on all participants are included at the end of this report.

Seminar Format

Participants had ample opportunities to learn from one another, share ideas, discuss issues, and network

The seminar offered the participants a varied format that provided ample opportunities for them to learn, share, discuss, and network including brief, informal presentations (powerpoints were strongly discouraged), extensive round-table dialogues, and thematic small-group discussions. All seminar activities addressed the challenges to identifying promising and even proven solutions to urban problems, widely disseminating this information, and increasing opportunities for cities and their stakeholders, through improved governance mechanisms, to use such knowledge effectively.

Several discussion papers were commissioned to introduce the seminar topics and stimulate discussion. The papers, pre-circulated to all seminar participants, detailed policy and/or practitioner work that has achieved some success and discussed issues related to the dissemination of the specialized knowledge gained. The Penn Institute for Urban Research is including expanded versions of these papers in a book, *Changing Cities: Linking Global Knowledge to Local Action in Asia*, to be published in July 2013 by the University of Pennsylvania Press under its "City in the Twenty-First Century" series.

At the end of the seminar, the participants agreed by consensus on issues that require further exploration and/or cooperative work involving both research and programmatic efforts.

Seminar Report

The report highlights **questions raised, comments offered, and key points identified** by the participants during open dialogue sessions

The following report has been organized to reflect the seminar agenda. It provides a summary of the presentations and discussions on each of the main topic areas explored over the course of the three days. The report highlights the questions raised, the comments offered, and key points identified by the participants during the open dialogue sessions. The report also contains insights and issues for a research and action agenda to improve knowledge dissemination in the area of sustainable urban development. This information was generated by the participants in small and large group discussions on the last day.

In addition, unedited participant responses to a pre-seminar questionnaire on knowledge transfer and innovative practices can be found at the end of the report. The survey was designed to offer the group an informal look at their peers' individual perspectives in the hopes that it might enliven conversations during the seminar. Surprisingly, 49 of the 51 participants took the time to prepare thoughtful answers, and it was decided to include a representative sample of the responses here.

List of Participants

Participation in the seminar was by invitation only.

Mr. William ANDERSON
Principal/Vice President, AECOM Planning, Design + Development, San Diego, California, USA; former director of planning and community investment, City of San Diego

Ms. Tamara ARSENAULT
Organizational Learning Advisor, CHF International, Silver Spring, Maryland, USA; former manager, urban services, US Agency for International Development, Poland

Dr. BACH Tan Sinh
Director, Department of Science and Technology, National Institute for Science and Technology Policy and Strategy Studies, Hanoi, Vietnam

Dr. Xuemei BAI
Professor of urban environment, Fenner School of Environment and Society, Australian National University, Canberra, Australia

Ms. Banashree BANERJEE
Urban Planner, New Delhi, India; associate faculty, Institute for Housing and Urban Development Studies, Erasmus University, Rotterdam, Netherlands

Mr. John BERENYI
Co-Founder, Global Urban Fellowship Program and Global Urban Laboratory, New York, New York, USA

Dr. Eugenie BIRCH
Co-Founder/Co-Director, Penn Institute for Urban Research, University of Pennsylvania, Philadelphia, Pennsylvania, USA; professor of urban research, University of Pennsylvania School of Design; co-editor, City in the 21st Century series published by University of Pennsylvania Press; former commissioner, New York City Planning Commission

Mr. Manfred BREITHAUPT
Senior Transport Advisor/Director, Sustainable Urban Transport Project, Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), Eschborn, Germany; editor, Sourcebook on Urban Transport

Dr. Tung BUI
Director, Pacific Research Institute for Information Systems Management; co-director, Asia-Pacific Economic Cooperation (APEC) Study Center, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA; professor of global business, Shidler College of Business, University of Hawai'i at Mānoa

Dr. Shabbir CHEEMA
Senior Fellow/Director, Asia Pacific Governance and Democracy Initiative, Research Program, East-West Center, Honolulu, Hawai'i, USA; former director, United Nations Department of Economic and Social Affairs

Dr. Allen CLARK
Senior Fellow, Politics, Governance, and Security Study Area, Research Program, East-West Center, Honolulu, Hawai'i, USA; former executive director, Pacific Disaster Center

The Honorable Mick CORNETT
Mayor, Oklahoma City, Oklahoma, USA (2004-present); chair, Urban Economic Policy Committee, US Conference of Mayors; president, National Republican Mayors and Local Officials organization

Ms. Celine d'CRUZ
Global Coordinator, Slum/Shack Dwellers International, Mumbai, India; co-founder, Society for the Promotion of Area Resource Centres (SPARC); former program associate, Cities Alliance, The World Bank, Washington, DC

Dr. Michael DiGREGORIO
Urban Planner, Hanoi, Vietnam; curator, "Hanoi:PublicCity"; former program officer, Ford Foundation in Vietnam

Ms. Xiaomei DUAN
China Country Director, Institute for Transportation and Development Policy, Guangzhou, China; head and vice chief engineer, Transport Division, Guangzhou Municipal Engineering Design and Research Institute

Mr. Joris van ETTEN
Capacity Development Coordinator, Cities Development Initiative for Asia, Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), Manila, Philippines

Ms. Mingxuan FAN
Research Associate/Program Manager, Global Asia Institute, National University of Singapore; former water economics researcher, Institute of Water Policy, National University of Singapore

Dr. Tommy FIRMAN
Professor of regional planning, School of Architecture, Planning and Policy Development, Institute of Technology, Bandung, Indonesia

Dr. Jefferson FOX
Senior Fellow, Environmental Change, Vulnerability, and Governance Study Area, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Roland FUCHS
Senior Fellow, Research Program, East-West Center and co-organizer, Cities at Risk Program, Honolulu, Hawai'i, USA; former director, START (global change system for analysis, research, and training) program

Ms. Wardah HAFIDZ
Coordinator, Urban Poor Consortium, Jakarta, Indonesia; former head, Urban Poor Linkage (UPLINK), post-tsunami reconstruction program in Aceh

Dr. Colin HARRISON
Distinguished Engineer, Corporate Strategy Team for Smarter Cities, IBM Integrated Technology Delivery Division, Armonk, New York, USA

Dr. Yu-Hung HONG
Senior Fellow, Lincoln Institute of Land Policy; visiting professor, Department of Urban Studies and Planning, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Dr. Marc IMHOFF
Terra Project Scientist, National Aeronautics and Space Administration (NASA) Hydrospheric Biospheric Sciences Laboratory, Goddard Space Flight Center, Greenland, Maryland, USA; primary developer of nighttime satellite imagery showing earth's cities

Dr. Kazi Maruful ISLAM
Assistant professor of development studies, Department of Development Studies, University of Dhaka, Bangladesh; consultant on health care service delivery, Save the Children and The Asia Foundation in Bangladesh

The Honorable Syed Mustafa KAMAL
Former Mayor of Karachi, Pakistan (2005–2010); named Young Global Leader by World Economic Forum (2010) for efforts to improve city infrastructure; former minister of information and technology, Sindh Province

Mr. Adam KAPLAN

Special Programs Manager, Sister Cities International, Washington, DC, USA; manager, Africa Urban Poverty Alleviation Program funded by Gates Foundation

Dr. Alan KELLY
Dean Emeritus, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, USA; professor of global health and infectious diseases, humans and animals in urban areas

Ms. Christine KESSIDES
Urban Practice Manager, World Bank Institute, The World Bank, Washington, DC, USA; former lead economist, The World Bank Water and Urban Unit, Sustainable Development Department, Europe and Central Asia

Dr. Kyung-Hwan KIM
Professor of economics, Sogang University, Seoul, Korea; president, Korea Real Estate Analyst Association and Korea Association for Housing Studies

Mr. Kunihiro KONDO
Senior Chief Engineer/General Manager of High Speed Rail, Japan Railway Company (JR Central), Washington, DC, USA and Tokyo, Japan

Dr. Aprodicio LAQUIAN
Professor Emeritus, Center for Human Settlements, School of Community and Regional Planning, University of British Columbia, Vancouver, Canada; former acting director, Special Program in Urban and Regional Studies, Massachusetts Institute of Technology

Mr. Ajit MOHAN
Independent Consultant/Principal, Blue Lotus Advisory Services, New Delhi, India; freelance journalist on urban issues for the Wall Street Journal's India Real Time; former fellow, McKinsey Global Institute, USA and India

Dr. OH Jae Hak
Director, Global Research Office for Green Growth and Convergence, and senior research fellow, Korea Transport Institute, Seoul, Korea

Mr. Stefan PRYOR
Deputy Mayor/Director, Department of Economic and Housing Development, City of Newark, New Jersey, USA; former president and chief executive officer, Lower Manhattan Development Corporation, New York City

Dr. Mary RACELIS
Research Scientist, Institute of Philippine Culture, Ateneo de Manila University, Quezon City, Metro Manila, Philippines; consultant on urban poverty issues to Philippine government, The World Bank, and Asian Development Bank

The Honorable Jesse ROBREDO
Secretary, Philippines Department of the Interior and Local Government (2010–present); former mayor, Naga City, Philippines (1988–2010); former president, League of Cities of the Philippines; former chair, Metro Naga Regional Development Council

Dr. Catherine ROSS
Director, Center for Quality Growth and Regional Development; professor of city and regional planning, College of Architecture, Georgia Institute of Technology, Atlanta, Georgia, USA; former advisor, White House Office of Urban Affairs; former senior policy advisor, Transportation Research Board, National Academy of Sciences

Dr. Sumeet SAKSENA
Fellow, Environment and Health Study Area, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Wicaksono SAROSA
Executive Director, Partnership for Governance Reform (Kemitraan), Jakarta, Indonesia; former executive director, Jakarta Urban and Regional Development Institute

Mr. Mitchell SILVER
Chief Planning and Economic Development Officer/Director, City of Raleigh Department of Planning, Raleigh, North Carolina, USA; president-elect, American Planning Association; former deputy director, Washington, DC Office of Planning; former director, Northern Manhattan Borough Planning and Policy office, New York City

Dr. James SPENCER
Director, Globalization Research Center; associate professor of urban and regional planning and political science, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA; adjunct fellow, Research Program, East-West Center

Mr. William STAFFORD
Senior Advisor/ former President, Trade Development Alliance of Greater Seattle, Washington, USA; chair, Seattle Sister City Coordinating Council; member, US Department of Commerce District Export Council and Washington State Economic Commission

Dr. Shamim Hayder TALUKDER
Founder/Chief Executive Officer, Eminence Associates for Social Development and Secretary, Bangladesh Urban Health Network, Dhaka, Bangladesh

Dr. Bernadia Irawati TJANDRADEWI
Program Director, CITYNET, Yokohama, Japan; former program specialist, Indonesian Branch, Japan International Cooperation Agency

Mr. Timeyin UWEJAMOMERE
Senior Urban Policy Analyst, WaterAid, London, United Kingdom; former head, advocacy and communications, WaterAid Nigeria

Dr. Kalanithy VAIRAVAMOORTHY
Founding Director, Patel School of Global Sustainability, University of South Florida, Tampa, Florida, USA; co-chair, International Water Association "Cities of the Future" program; co-coordinator, UNESCO Urban Water program; director, SWITCH (Sustainable Water Management Improves Tomorrow's Cities Health)

Dr. Srinivasa Chary VEDALA
Dean of Research and Management Studies/Director, Center for Energy, Environment, Urban Governance, and Infrastructure Development, Administrative Staff College of India, Hyderabad, India; founder, Urban Resources Link

Dr. Susan WACHTER
Co-Founder/Co-Director, Penn Institute for Urban Research, University of Pennsylvania, Philadelphia, Pennsylvania, USA; professor of finance, Wharton School; professor of city and regional planning, University of Pennsylvania School of Design; co-editor, City in the 21st Century series published by University of Pennsylvania Press; former assistant secretary, US Department of Housing and Urban Development

Mr. Chi Chung WONG
Executive Vice President, Planning, Design + Development, AECOM Asia, Hong Kong, China

Dr. ZHENG Shiling
Director, Institute of Architecture and Urban Space, School of Architecture and Urban Planning, Tongji University, Shanghai, China; director, Committee for Urban Development Strategy, Shanghai Planning Commission; chief curator, World Expo 2010, Shanghai

OVERVIEW
Changing Cities: Challenges and Opportunities for the 21st Century

Discussion paper on Sustainable Urban Development and Best Practice Transfer

Presented by

Dr. Eugenie Birch, *co-director, Penn Institute for Urban Research; professor of urban research, Department of City and Regional Planning, School of Design, University of Pennsylvania, Philadelphia, Pennsylvania, USA*

Dr. Susan Wachter, *co-director, Penn Institute for Urban Research; professor of financial management, real estate and finance, The Wharton School; professor of city and regional planning, School of Design, University of Pennsylvania, Philadelphia, Pennsylvania, USA*

Introduction

More research is needed to better understand how cities transfer knowledge and adopt best practices

Urban areas now house the majority of the world's population, placing them at the center of a growing number of acute global challenges while simultaneously positioning them as the only settlement patterns likely to provide the efficiencies of scale, low carbon footprints, and economic development opportunities necessary to address these challenges. However, it is clear that technological and structural improvements have been unevenly experienced throughout the world. The vast majority of the world's cities, facing similar obstacles, continue to struggle with inefficient infrastructures. More research needs to be done to better understand how cities transfer knowledge regarding innovations and promising practices in sustainable urban development and whether the methodologies used are sufficient for cities to effectively disseminate and adopt best practices.

Competitive Cities and Best Practice Learning

The rise of "global" and "entrepreneurial" cities literature has situated analysis of urban development strategies within a framework of globalized competition among cities as they jockey to attract "footloose" sources of capital and private investment at the regional and international levels. Regardless of the popularity of the competitive city model, city administrations experience very little pressure

when it comes to actively adopting best practices. Where effective knowledge exchange does occur, it is almost expressly transferred among individuals and departments within the same disciplines and sectors, and rarely ever involving representatives from the various fields which will in fact be responsible for working together to implement holistic, sustainable development strategies.

Appeal of Best Practice Methodology

A "best practice" is a method, technique, or process with defined criteria that has **proven to be transferable and/or scalable within a variety of contexts**

The advantages reported by practitioners of building and sharing best practices fall into two categories: (1) knowledge sharing leading to better informed decision making, and (2) improvement in organizational and fiscal efficiency. The best practice methodology has earned a reputation for being pragmatic, practice driven, user friendly, innovative, and an effective way to bridge disparate fields engaged in highly complex planning issues. Planners can streamline actions and avoid mistakes, and decision makers have access to more complete information on likely outcomes and consequences of policy decisions ahead of time.

Definition

A "best practice" is a method, technique, or process gathered from analyzed, comparable, successful cases with defined criteria that have proven to be transferable and/or scalable within a variety of contexts.

Critical Success Factors

These factors represent the fundamental elements that must be present in order for a policy or program to succeed. They serve as prerequisites of efficient and effective work processes and require day-to-day attention. Critical success factors can be either operational (existing throughout the life of a project) or circumstantial (dependent upon the context in which a project strives to meet its goals).

Performance Indicators

Performance indicators assess how a project's outcomes compare to its objectives. Benchmarking is a related, generic term for measuring performance against some professionally accepted standard of quality. Consistent performance indicators across best practices addressing the same planning issue allow direct, more accurate comparison of practices.

Knowledge Sharing Techniques: Limitations and Innovations

Peer-to-Peer Exchanges

The preference for peer-to-peer exchange, defined by the United Nations Department of Economic and Social Affairs as "exchange of knowledge, know-how, expertise and experience between people and organizations with similar roles and responsibilities, facing similar issues and problems," can be attributed to "anecdotal exchanges" and interpersonal relationships by practitioners within the public policy field. Challenges include lack of trust between senders and receivers of knowledge, an inability to adequately employ frameworks that are sensitive to particular factors and sociopolitical contexts, and a lack of respect for the importance of local knowledge. Successful "learning" and knowledge

exchange missions benefit from the inclusion of a diverse group of stakeholders, allowing for cross-disciplinary and multisectoral communication to take place before and during the actual process.

Internet Databases

Such databases offer high potential for widespread, instant exchange of knowledge. The UN-Habitat Best Practices in Improving the Living Environment database award-winners reviewed thus far, however, were seen generally to lack objective third-party evaluation, consistent benchmarks for success, and sufficient information to assess the potential for transfer. In addition, it is much easier to offer a compendium of practices and leave it up to the recipient to decide which is the most appealing than it is to offer an evaluation of what works best for highly differentiated audiences. The World Bank's Urbanization Knowledge Platform is an example of a project that will undertake an ambitious goal of connecting numerous networks of knowledge sources and interested parties in the creation of best practice knowledge on sustainable urban development.

Intermediary-Assisted Dissemination

Intermediary-assisted dissemination occurs when a third party coordinates the exchange of information and transfer of the practice between actors and institutions in cities. These programs, however, can be vulnerable to the same obstacles as peer-to-peer exchanges where critical success factors, indicator systems, and political contexts are overlooked or not adequately identified. Private sector actors such as IBM and CISCO play a major role not only in research and development of best practices, but are also hired to implement their strategies across the globe. These firms' respective programs are constantly building a client and partner base among cities across the world, transporting innovative practices in "soft" infrastructure development, such as smart grid energy technology, web-based connectivity, and transportation systems. While some Asian cities have begun to struggle with open data platforms, the lack of an effective local intermediary organization that prioritizes development of common technology standards and platforms has meant that efforts have been significantly hampered by a lack of compatibility and uniformity, as well as pushback by municipalities who are not interested in sharing data.

Academic Institutions

Not only do academic institutions play a central role in hosting academics, practitioners, and policymakers through symposiums, conferences, and study tours, but many universities also offer international fellowships and certificates in the areas of urban finance, planning, and health. New actors and voices are also being included within the traditional model, stressing a more inclusive role that institutions can play in convening practitioners, academics, and policy-makers around shared interests. Finally, academic institutions continue to provide critical research and findings (often via peer-review publication) which are well proven to have spillover effects, spurring private and public sector innovation.

Remaining Challenges

The current professional lag in defining a uniform case documentation method leaves room for great inefficiency, and a lack of rigorous follow up on the potentials and impacts of emerging dissemination methods, especially those utilizing web-based platforms, is a cause for concern. While the majority of agencies concerned with urban development now recognize the importance of taking a holistic approach to urban issues, there remains a gap in understanding how representatives from these fields can more effectively work together to create, disseminate, and implement best practice knowledge. Best practice knowledge transfer thus continues to suffer from challenges of:

Siloing and Coordination

While the overall number of city-to-city exchanges is increasing, knowledge transfer remains highly siloed. While these growing networks are achieving great success in many contexts, the proliferation of new sites, portals, and peer-learning networks actually reinforces existing divisions among sectors and networks, rather than breaking them down.

Lack of Common and Sophisticated Standards and Metrics Across Cities and Practices

Best practice case studies must document benchmarks for success, such that they can be compared to gauge the degree of success. Continued monitoring is a critical element for improving the practice in the future.

Institutional Capacity and Information Overload

New technologies are drastically widening the availability of knowledge and practices, but are simultaneously presenting new challenges to the filtration and review process, placing more pressure on users to identify and review appropriate practices.

Summary of Dialogue – Knowledge Transfer

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

> ***How can we move beyond 19th century goals of improving living conditions to a new goal of designing a much more intelligent and sustainable urban system?***
>
> ***Can we create a flow of global knowledge to where it is needed the most?***
>
> ***How can data from a study or seminar turn into actionable plans?***

How can the transfer of technical information and knowledge of best practices from case studies be customized for practical use in other locations?

How can we bridge the gap between social and physical science-based perspectives when defining urban problems?

In order to create more resilient, inclusive urban environments over the next century, urban leaders, planning practitioners, scholars, and community and business leaders need to identify new and more effective ways to widely disseminate knowledge of good urban practice and innovative policies that have been gathered from diverse sources. The knowledge disseminated should be presented in ways that encourage easy and clear examination and include detailed information that addresses methods and models suitable for application at the local level.

There is an avalanche of urban growth coming over the next forty years, and **partnerships between government, civil society, and the private sector will be critical**

Successful knowledge exchange is a critical area of study for a number of reasons. Doubling of the world's urban population in the last forty years has put immense pressure on urban resources, causing increased demand for more efficient delivery and usage. The complex nature of the management of cities, including social, economic, and environmental sectors, means diverse sources of knowledge are useful when adapting management practices. Knowledge transfer and successful interactions between cities strengthen networks, which become critical during a crisis for cooperation and to avoid losses.

There are challenges in true transferability of knowledge, including identifying and overcoming barriers to sharing solutions, as well as ways to aid the movement of critical knowledge across boundaries and increase opportunities for cities and their stakeholders, through improved governance mechanisms, to use this knowledge effectively. These solutions are necessary, because despite an abundance of information easily available on the Internet, replication of successful sustainable development is not happening. There is a need for global connections and knowledge sharing, but this is not as critical as local knowledge being successfully implemented. It is not possible to impart the critical knowledge necessary for successful implementation through conferences and meetings only.

Knowledge Exchange Partnerships and Platforms

The newly established World Bank Urbanization Knowledge Partnership is responding to the need for a global knowledge-sharing strategy that can provide the best information and data to policymakers and practitioners on a just-in-time basis. Four web-based platforms have been designed to contribute to changing the way governments, public and private sector organizations, academia, and individuals access and use information to manage urban growth:

1. Knowledge exchange/sharing among equals
2. Structured learning/training utilizing research findings
3. Soliciting and rewarding innovation

4. Cultivating adaptive leadership/collaboration among cohorts to solve common problems

The project provides online access to global knowledge on key urbanization issues including economic (rural-to-urban transition), social (inclusion and mobility), environmental (sustainable urban growth), and governance (accountable cities and towns). The World Bank Institute is currently studying how knowledge is exchanged through activities of networks and associations, urban institutes and think tanks, and public-private partnerships, among others. Some urban experts are also looking at how cities learn. A new book, *Beyond Smart Cities* by Tim Campbell, addresses how cities are able to work collectively beyond the local government.

Enabling Replication

Government should drive innovation since it is where new ideas can be put into widest practice

The mere existence of available information does not necessarily ensure successful implementation. A systematic, cross-case analysis to extract information on necessary enabling conditions for successful knowledge exchange is needed. Acknowledging the mutual benefits of knowledge transfer, viewing it as knowledge "exchange" rather than knowledge "transfer," can help to support dual learning. Other conditions for successful knowledge transfer center around leadership and cultivating it as a process rather than a person. This involves being an adaptive leader who supports others in the team so they collectively deal with challenges. Increased emphasis on coalition building among stakeholders can also support successful knowledge transfer by strengthening pluralism in formally structured decision making. These stakeholders can be viewed as a pool from which innovation can be sourced from a wide audience. Activists' involvement can support the dissemination of knowledge and add to the pool of local expertise. Strengthening the government leg of public-private partnerships is another way to cultivate successful knowledge transfer.

Successful knowledge transfer depends on having knowledge of incentives and performance indicators which must be met as well as improving the efficiency of policy instruments, since these will shape future planning. Successful knowledge transfer can also be supported with the reform of institutions and identification of new institutions. For example, establish a "roving band" of professionals—a talent network—that cities can tap into.

Changes Necessary for Success

Many changes are being proposed to foster successful knowledge transfer between cities in the future. It is essential that government becomes the place that is driving innovation since it is where these new ideas can be put into widest practice. In order to effectively take on this role, governments need to strengthen their ability and incentives to innovate. Government mechanisms must focus on making decisions while keeping the regional framework in mind. In all parts of the equation of knowledge transfer (private sector, universities, and government), the best and the brightest people must be involved in solving problems. This involves engaging activists in the decision-making process. Within collaborations,

the need for pluralism and the need for leadership must be balanced. More analysis on the relationship between federal and local governmental relationships should be undertaken in order to understand the dynamics at play during knowledge sharing.

An emphasis on transparency in government and governance, including open access to data and information in the city, will support informed decision making. This is a crucial step forward in successful knowledge transfer and can potentially lead to a change in how government works in developing nations. Increased awareness raising and exposure to alternative practices is also a critical step forward and can be achieved through popular publications and the media.

Solutions are needed to address the limited nature of the three T's: time, turf, and talent. Scenarios akin to disasters could help to overcome time and turf constraints, which usually limit officials to day-to-day concerns. The urgency felt during crises helps to overcome the sense of ownership some levels of organizations feel over their turf or the area over which they have power. The lack of talent could be addressed by a new, roving network of experts who can be hired to help assess and design solutions to meet cities' needs. Expanded opportunities for exchanges between leaders are also necessary, not only through seminars but other ways of interacting as well.

Determining **effective ways to widely disseminate knowledge of good urban practice and innovative policies is key** to creating more resilient, inclusive cities

There is a need to focus not just on transferability, but also on what information is being transferred. Lessons learned should be framed within the context of the successful program, and should be tailored to fit the context of the destination. Ideology, while relevant to knowing the context, is not the focus of sharing success stories.

The kinds and forms of institutions required to solve problems must be identified. Institutions might need to be reformed to engender inclusivity, for example. Regardless of the development level of the country, existing organizations must be examined and the need for institutional reform evaluated. Increasing stakeholder ownership and accountability is another important change that is needed. Collaborative research with the development of a hypothesis, empirical investigation, replication in specific applications, and incorporation of indigenous and local knowledge is another step forward to successful knowledge transfer.

The Process of Knowledge Transfer

The exchange of knowledge can occur in a number of ways, and how a city learns will depend on several factors including local expertise, access to technology, and worker expertise. Options for exchange of knowledge include:

- Shared experiences through conferences, workshops, short-term training
- Video conferences including co-presentations
- Collaboration between public and private sectors

- Direct personal contact to share experiences and views
- Participation in study tours to gain first-hand perspectives
- E-learning with tutors, blended learning
- Research conducted by urban institutes and think tanks
- Online community discussion boards
- Popular and academic publications
- Media articles and broadcasts

Variables to Consider

There exist a number of variables within the topic of knowledge transfer between cities. Understanding the context within which a program operates effectively is vital in reproducing a project successfully, as each city's environment (political, social, etc.) is different. Some key issues include:

- The concept of a "city" is defined differently around the world.
- The decision-making process within a city government varies significantly between nations.
- Where funding and implementation are the responsibility of the federal government, the absence of local ownership of projects ultimately means they are unsuccessful.
- Cities expand or decline for different reasons. They can be viewed as assets—socially, economically, and environmentally—where they have the ability to create social mobility. They can alternatively be viewed as enormous liabilities, where economic prosperity is countered with economic inequality, the environment is overwhelmed, and social challenges abound.
- Cities approach urban development in different ways. It is important to understand the risks involved and who bears these risks.
- The reasons residents move vary widely. Understanding this dynamic is vital in planning for shifting populations and managing growth.
- The incentive structure faced by local officials differs from place to place. The broader context of development in recent decades, which in Asia has meant fiscal and political decentralization, should be kept in mind in the future when macro-level conditions might not be the same.
- Analysis of land capacity must be balanced with the needs of the local residents.

The concept of a "city"

is defined in different ways around the world

Overcoming Barriers

There are many critical barriers to knowledge exchange among cities that need to be overcome. The barriers are diverse and present formidable challenges to the dissemination of best practices in the region. For example, The World Bank and Asian Development Bank fund research projects that operate under strict guidelines prohibiting communities from gaining access to data collected from them. Another key problem is gaining buy-in to implement a new idea. It is difficult to be the first to test new knowledge or a new practice. City governments are especially reluctant to bear the risks involved in getting the new project started. Other barriers include:

- Lack of an ideological underpinning critical to gaining government interest and support.
- Misjudging the state of readiness to begin a new program, particularly the knowledge and resources required to develop the local capacity necessary to successful implementation.
- Chronic misunderstandings between decision makers and implementing bodies that often lead to antagonism between city hall and the outside community. This can stop new projects in their tracks. Multiple stakeholders and priorities need to be juggled by the decision makers.
- Dilution of accountability as nongovernmental and other organizations take over the roles traditionally thought of as governmental.
- Uncertain political commitment and staying power. Cities can have a strong vision, but leadership is the limiting agent.
- No clear political process for open debate and decision making, especially in developing countries. Also no standardized set of metrics or benchmarks.
- Misaligned priorities arising from collaborative research and the incorporation of indigenous/local knowledge.
- Tight fiscal times that necessitate focusing on core services rather than on a long-term vision.

SESSION I
Urban Planning and Competing Land Uses

Discussion paper on Periurbanization and Planning: Identifying, Mapping, and Managing Periurban Communities in Vietnam

Presented by

Dr. Jefferson Fox, *senior fellow, Environmental Change, Vulnerability and Governance, East-West Center Research Program, Honolulu, Hawai'i, USA*

Dr. James Spencer, *director, Globalization Research Center; associate professor of urban and regional planning and political science, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA*

Introduction

Periurban areas occupy large portions of national landscapes and are home to hundreds of millions of people. They face unique problems including intense pressures on resources, slum formation, a lack of adequate services such as water and sanitation, and degradation of farmland. The governance and management of periurban areas are often neglected by both rural and urban administrators because the areas sometimes lie beyond urban administrative boundaries and the resources accompanying this designation. At other times they fall under city administration, but lack the financial resources to upgrade their planning and infrastructure.

In Asia it is estimated that the population of periurban areas will increase by approximately 200 million people over the next 25 years, accounting for 40 percent of urban population growth. Little has been written about the periurban transition in Southeast Asia, although it is increasingly recognized as an important issue in planning and policy. The case of Vietnam is an interesting one for helping to fill this gap—in part, because the country is currently undergoing rapid periurbanization, and in part, because the national government has an excellent infrastructure for collecting data relevant to the research question of the spatial extent of periurbanization.

Modeling Transitional Periurban Development in Vietnam

To define the extent of periurbanization in Vietnam, demographic, social, economic, and environmental data collected in national censuses and aggregated

at the commune level was used to identify areas that are traditional (agricultural), modern (urban), and transitional. The data showed that over 8 percent of the country's land area and roughly 13 percent of its population reside in periurban neighborhoods. A significant portion of urban Vietnam is affected by transitional dynamics that incorporate components of both urban and rural ways of living and infrastructures. Transitional neighborhoods such as these force planners to ask two questions. First, they must ask to what extent does the dichotomy of urban/rural make sense in the context of Vietnam, when large areas and parts of the population are caught between the two. Second, how can planners and policymakers effectively provide for basic public goods and services in these contexts.

In Asia it is estimated that **the population of periurban areas will increase by approximately 200 million people over the next 25 years**, accounting for 40 percent of urban population growth

An investigation of innovative experiments in the governance of periurban areas in Can Tho and Hanoi, based on field interviews with district and commune officials as well as resident households, has found that informal and semiformal institutions coexist alongside large-scale projects in the supply of clean water and that local residents make important contributions to the financing and management of the projects.

These empirical cases point toward innovative approaches to financing urban services that involve communities as active participants and drivers rather than passive subjects of development. Additionally, such demonstration programs provide opportunities for city-level managers of periurban areas to develop strategies for the provision of a range of urban services to these areas where residents often live in underserviced and environmentally challenging conditions, and where traditional urban finance approaches may be unrealistic.

Policy Applications: Periurban Infrastructure Capital Funds

To date, there has been relatively little work on microfinancing alternatives for public services. The theoretical and empirical review of periurbanization in Vietnam and how communities there have adapted to increased demands for urban services opens the door for practicing planners and policymakers to develop programs for providing credit to currently "unbankable" local associations, communities, and governments unable to access credit.

Summary of Dialogue – Periurbanization

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

Periurbanization: What is it? Can we characterize and define it?

What defines a community in a periurban area? Which populations are most affected by growth in these areas?

There is no consensus on the definition of periurban, but it is recognized that within cities and beyond their limits, rural and urban features tend increasingly to coexist. The rural-to-urban transition can be seen as a continuum, and the characteristics that constitute a "rural" versus an "urban" settlement can be quite subjective. In some cases, cities are expanding into one another, with indistinct boundaries between each. This phenomenon is in contrast to earlier models of urbanization where growth was directed towards a clear high-density center. The question of scale is an important factor when considering the growth of these transitional zones, as they occur not only in mega-urban regions, but also in small and mid-size urban centers.

The rural-to-urban transition can be seen as a continuum

Attempting to measure the precise size of a periurban area can be a futile exercise due to the scale and fast pace of development in transitional zones. New methods for collecting and analyzing up-to-date demographic data and the use of sophisticated mapping tools such as GIS and remote sensing are needed for governments and researchers to better understand how peoples' lives and the landscape are being affected by the periurbanization process, including the extent of environmental and human-health problems.

General Characteristics of De-Agrarianization, Rural-to-Urban

- More common and pronounced diversification of rural occupations and livelihoods
- Change in mixture of land uses to include small-scale agriculture, cottage industries, and suburban development
- Extreme fluidity and mobility of the population, including gray zones where informal and illegal activities may be grouped
- Shifts in balance of household income from farm to non-farm, growing role of remittances, and increased female participation in the labor force

Periurbanization has created intense pressures on and demand for urban resources and community and social services. Key concerns are the continued degradation of farmland, rapid growth of slums, chronic lack of adequate water and sanitation services, and increased air and water pollution. The fragmented nature of government responsibilities in periurban areas is an overarching concern as administrative boundaries are often unclear and result in uneven financial and other resource allocation and service delivery. Attention is increasingly being focused on new approaches to governance and management of these in-between areas, especially to accommodate the contrasting lifestyles and conflicting interests associated with rapid changes in land use from agriculture to residential, industrial, and commercial.

Establishing New Governance Paradigms for Periurban Areas

> ***How can a nation's official growth strategy more effectively incorporate informal development?***

What are the key management challenges to administering transitional rural-to-urban areas?

Are there existing organizations at the local level that make policy which supersedes governmental authority?

How does gender impact leadership and policymaking in urban poor communities where local government is typically headed by men and civil society organizations are most often led by women?

Governance takes different forms depending on the unique context of a place, and this is very true in periurban areas where there is growing evidence that government institutions are increasingly unable to effectively make and/or implement appropriate policies and procedures. The rapid pace of change in periurban areas presents a key challenge, especially since the vast majority of residents are informal settlers and squatters with high mobility patterns. In addition, participatory governance structures are impacted when political decisions are made to relocate informal sectors en masse, creating a "deliberate" periurban transition.

Creating new ways of governing periurban areas is becoming more important as the growing populations demand improved and expanded urban services

Political leadership varies widely and, as administrations change, the goals for periurban areas can shift. In some cases, local governments have the authority to act as formerly rural areas are suddenly designated as urban. In places such as Vietnam and India, however, local governments are accountable to higher levels of government which complicates decision making in the transitional zones. In other instances embedded, informal, or traditional decision making—where community leaders act on behalf of their neighbors—continues to be practiced. In such cases, however, interactions between urban and rural groups often result in conflict due to different value systems. In Indonesia, cities are viewed as fiefdoms in the ways they are managed. This has a significant impact on how the governing bodies view the demographic and development changes pushing against the boundaries of their cities. In some areas of Asia where periurbanization is occurring, local governments have orchestrated slum clearance operations to remove undesired populations. In addition, directing growth in a certain area is sometimes the result of political rivalries rather than of carefully thought-out planning based on real-world conditions and needs. This can be seen in Vietnam where the projected, desired population of Hanoi is set to match Ho Chi Minh City's population.

Creating new ways of governing periurban areas is becoming more important, especially as the growing populations demand improved and expanded urban services. For example, the establishment of a formal, institutionalized process could encourage more knowledge of local conditions among political leaders and more easily facilitate the transfer of technical expertise as needed. In the Philippines, a collaborative participatory process has engendered successful intercity relationships and wide-scale recognition of the mutual benefits of cooperation. In Hanoi, a groundswell of community involvement has led to more government intervention and support for public space preservation.

Key Points

Interactions between levels of government should be vertically integrated and scaled.

Targeted research projects on periurban governance should include stakeholders relevant to the scale of the project.

Governance methods should be adapted to the faster rate of change in periurban areas.

Understanding the dynamics of periurban growth and how urban and rural areas connect with each other is a critical step in effective governance.

Dynamics between old residents and newcomers as well as gender issues in urban leadership, including the importance of women as they drive issues for the community, are all important in studying community in periurban areas.

Flexible regulatory frameworks should adapt to the circumstances in periurban areas, with new, inclusive governance structures to get input from residents.

Delivering Basic Urban Services to Periurban Areas

What service delivery strategies would more adequately address the needs of a periurban population?

Should residents of transitional zones be relocated to the urban core to obtain basic services from existing infrastructure to allow for better economy of scale?

Should the existing service delivery system in the urban core be expanded into the periurban area?

Should each periurban area have its own service delivery system to allow for more flexibility?

What services should the government provide? What services should the private sector provide?

Periurban areas are complex places. Solving basic service delivery challenges in these areas is particularly difficult given the fragmented nature of governmental jurisdiction and conflicting regulations. As transitional zones grow and change, government planners and policymakers are struggling to provide effective delivery of resources such as water and electricity to a population that is often a moving target. One concern is how to also deal with increasing density of the urban

core. In India, the question is should the government tackle the problem of providing services to periurban areas from an "inward" as well as an "outward" perspective? In Vietnam, the central authority designates periurban areas as part of the new urban core in order to extend services.

The fast pace of periurban development has become increasingly problematic, as government planners and policymakers **struggle to deliver basic services to a highly mobile population that is living in administrative limbo**

The dilemma is whether to plan for an incremental, transitional-scaled development or a full-scale, modern service delivery system. Overbuilding to create large infrastructure systems has become a common error, however, especially where future demand is uncertain. Determining the scale at which a government provides services, therefore, is very important. New data collection and analysis, improved use of technologies, and improved governance models are needed to make better decisions regarding the best scale of infrastructure required. While government faces these challenges, civil society, local institutions, and informal self-help groups of citizens are taking a more active role and responsibility for providing daily public goods and a wide variety of social services, including education and security, at the community level in transitional zones.

In many cases where rural land is being newly incorporated into cities, financially strapped governments are selling the land to private developers with the assumption that the private sector will be responsible for providing necessary basic infrastructure such as water, sanitation, housing, and local road construction and maintenance. While this practice can work reasonably well for large-scale formal developments, there is a lack of financial incentives for developers to provide similar services in smaller-scale communities. In these communities, intermediary-level funding could jumpstart public-private partnerships and offer smaller local governments the technical assistance they need to determine the best level of services for their residents.

In some instances, district-level governments and local communities in periurban areas have worked together to come up with creative ways to provide basic services. One example can be found in Can Tho and Hanoi, Vietnam, where the local governments have developed incentive structures for sourcing water from private wells to augment existing low-capacity city water supply systems. The state-owned water company pays well owners one-third of the value of the water they provide and then charges residents for use of the water. The state-owned company also pays well owners a fee to manage billing and collections. In addition, the well owners earn a commission for each household that they connect to the piped system that previously had no access to the water service. This innovative approach to financing and managing water supply for periurban areas has proven to be a successful public-private partnership, despite a difficult scenario for delivering the services.

The cost of delivering water to periurban areas must be taken into consideration as policies are adapted for rapidly growing urban areas. Periurban residents have extremely limited funds and often need to make financial decisions about whether to spend money on water or education for their kids. In Vietnam, for example, clean, treated water is only used for drinking and cooking and low-quality water is used for other purposes.

Key Points

Partnerships should be encouraged for sharing costs, risk, and expertise for delivering services for the urban poor.

Analyses are necessary to see if an incremental, transitional delivery system is better than a fully modern delivery system in an area.

One critical challenge facing urban planners and managers of periurban areas is how to convert the complexities of an issue into improved urban policy.

Building Economic and Social Vitality in Periurban Areas

Can periurbanization be used as a tool for reducing poverty?

How can the economic potential in periurban areas be harnessed?

Is there competition between periurban and core urban areas?

The forces of urbanization, decentralization, booming economies, and the rise of public-private partnerships are **transforming developing cities in Asia and creating new hubs of social empowerment**

Many forces are at work in transforming developing cities in Asia, and their periurban areas in particular, into new hubs of social empowerment. These forces include urbanization, decentralization, booming economies driven by both domestic and international market forces, and the rise of public-private partnerships. These forces have had a significant impact on land use and poverty reduction. Traditional agricultural lands are being converted into intensified commercial farming or reshaped into urban settlements to meet the growing needs of lower income populations that are migrating to cities for emerging job opportunities. Most large manufacturing enterprises now locate in periurban areas and attract much, if not most, of the foreign direct investment flowing to the region. The private sector, in the meantime, is actively seeking economic opportunities by tying together locations to build new workforce housing in proximity to factories. In Vietnam, the diversification of capital investments and the commercialization of housing in periurban areas have significantly changed the way the cities are growing.

In order to capitalize on the economic expansion into transitional zones, local governments must identify new ways to raise funds to build the urban service infrastructure required for new businesses and new residents. Innovative funding mechanisms need to be identified as traditional urban finance systems continue to prove unrealistic. One possible solution might be to relax development financing requirements and investments at the regional or local level and establish microfinancing alternatives to provide credit for community-based urban infrastructure activities.

This requires policy reform of current development bank and international finance institution lending practices. A new micro-finance system would have to be created, since existing micro-finance programs are designed for individuals and not for municipal projects at a macrogovernmental level. Such alternative micro-finance programs might be modeled on the Grameen Bank, which has been successful in creating a private credit market for the poor in Bangladesh, or the US Local Initiatives Support Corporation, which has been used to support affordable housing in the United States. Both of these schemes, however, require incentives for lenders to invest in non-traditional borrowers as well as strong intermediary institutions that can channel development funds into complex local arrangements and assist with project viability and financial accountability.

In addition to the challenges of financing capital improvements, local governments are also facing new and difficult circumstances related to providing expanded social services for the low-income populations flooding into the transitional zones to take advantage of the new economic opportunities. The increased demand for factory workers from periurban areas, for example, has involved wrenching social adjustments for traditional agricultural workers who are now trying to adapt to an industrial lifestyle in a very short time. Another example is the antagonism that has grown between the labor markets in the transitional zones and the established urban core. This is due to increased competition for employment opportunities from periurban residents who commute into the city. Such large-scale daily migration of periurban residents represents a spatial mismatch between place of employment and place of residence that needs to be addressed.

Another concern is the impact that increased industrial activity, including industrialized agricultural production in some city outskirts, is having on the health of periurban residents. In Mongolia, for example, large-scale agriculture is taking place in a relatively crowded area, and the waste associated with pig farming has become a serious health issue. Research is needed to explore ways to incorporate land uses that benefit human health.

Key Points

The gap between physical and social science perspectives on land use must be bridged and their complementary views combined in order to address the complex issues at play in periurban environments.

Innovative global development financing arrangements are necessary for supporting urban growth in periurban areas and should include funding for subnational entities, such as community-led micro-credit programs.

SESSION II
Infrastructure Innovations in Energy and Transportation

Discussion paper on Creating a Resilient Transportation and Energy Future

Presented by

Dr. Catherine Ross, *director, Center for Quality Growth and Regional Development; professor of city and regional planning, College of Architecture, Georgia Institute of Technology, Atlanta, Georgia, USA*

Introduction

Urban energy use and transportation systems are major components of the urban environment which lend themselves to overall functionality and success in supporting human activities. Current trends in urban growth will continue, with an approximate 70 percent of the global population expected to be urbanized by the year 2050. The increasing significance of global supply chains and the concentration of large volumes of container traffic in major trade and freight corridors are creating massive levels of congestion. This suggests we must develop new models in constant evolution in response to market forces, technological advances, and the emergence of other nations in the global economy placing increasing demand on transportation systems and energy resources.

Resilience and Sustainability: What Is a Resilient Urban Environment?

Urban environments are anything but predictable or consistent. They are complex and evolving

Sustainability implies a sense of predictability or consistency within a system that ultimately promotes longevity. However, urban environments are anything but predictable or consistent. Composed in part of a highly interrelated social-ecological system, urban environments are complex and evolving. The fundamental link between energy and community is reflected in the fact that roughly 70 percent of the energy used by a community is influenced by land use allocations, site design, development practices, and both transportation and utility infrastructure.

The concept of resilience addresses not only the conditions that allow a system to absorb shocks and cope with disturbances, but also involves an adaptive process that facilitates the ability of the system to reorganize, change, and learn in response to an event.

Innovation in Urban Energy and Transportation Systems

Some fundamental characteristics of transportation modes depend on where they are used (suburbs, rural areas, or congested city centers), how electricity to power them is generated, and the costs associated with travel and energy in these different places. If innovation is to be used to create new knowledge, it should possess some transformative power with the ability to change current conditions or promote greater utility from its use.

If innovation is to be used to create new knowledge, it should possess some tranformative power with the ability to change current conditions or promote greater utility

Critical Issues

The demand and consumption of energy have far-reaching environmental impacts which go beyond its origin in the more densely populated urban areas. The emissions produced from energy generation, industrial activities, and vehicle exhaust are not limited to their urban source but instead, due to factors such as wind effects, can affect the less developed hinterlands surrounding the urban core. Cumulatively, these externalities can have great impacts on global climate change as well as on the more clearly articulated local environmental impacts. As a result of the complexity of urban systems, and the strong relationships which exist between subsystems, it is critical to address issues in a holistic, integrated systems approach.

Selected Innovative Practices

There are a number of innovative practices or programs in the United States that have been developed or are under development to address major issues in the area of urban energy and transportation systems within the urban environment. These innovations are presented across a broad array of issues including new technologies, product and material development, new financing approaches, planning systems, mechanisms for project delivery, organizational functionality, and alternative modes of travel. The following cases present a wide mix of innovative practices giving an overview of the diversity of innovation:

- *TIGER* (Transportation Investment Generating Economic Recovery) Discretionary Grants Program by the US Department of Transportation.
- *CAFÉ* (Corporate Average Fuel Economy) standards within recent years have also served as a potential source to reduce energy consumption by increasing the fuel economy of cars and light trucks.
- *The Energy STAR* Program, established by the US Environmental Protection Agency and the US Department of Energy in 1992, has made substantial contributions to the urban energy landscape promoting energy efficiency and environmentally friendlier products and policies. As a result of this labeling program, consumers, households, businesses, and industries are more aware of their choices and the resulting effects their decisions have on the environment and how those decisions affect energy use and greenhouse gas emissions.

Barriers to the Effective Transfer and Adaptation of Innovative Practices
"Business-as-usual" practices or policies that support the status quo can be perpetuated by the owners and proponents of conventional technologies who have a foothold in the market and can advocate for favorable policy treatment towards their investments. In addition to the influence these organizations have on policy directions, these established industries also benefit from scale economies in favor of conventional technologies, which may not be readily available to small-scale innovators or innovations.

Improving the Efficacy of Cross-City Knowledge Exchange of Innovation Practices
The issues facing the transfer of knowledge between cities within the same country and between cities in different countries are not the same, and are dependent on factors related to the cultural, geographical, political, and environmental context in which they exist.

Summary of Dialogue – Energy and Transportation Future

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

> ***In planning for the future, should we be looking to the 22nd century instead of 2050 to properly focus on the level of urgency of these problems?***
>
> ***What information is available to cities to help them decide what transit system they should invest in today? Are there global demand forecasts?***

Creating a resilient urban energy and transportation future demands longer-term and innovative approaches to overcome the conventional shortsightedness and status-quo/slow-to-change postures that have guided development and its challenges, particularly in the United States. Negotiating a path to resilience will include a rethinking of the political cycles and financial systems in order to make positive differences and good investments. At present, these systems do not adequately address future needs. We need to set worldwide energy standards, for example, regardless of the country.

There are many issues that drive energy and transportation policies in the United States. Evaluating investment decisions for the long term will require the establishment of different goals and the use of different tools. The key is to stop reproducing failures.

- Logistics sprawl (large warehouses that relocate from core urban areas to suburban/exurban areas) that creates increased truck traffic/emissions.

- Behavior modification (new urban transit systems, including non-motorized transport systems) that offers new lifestyle choices other than passenger vehicles.
- Rail-transit systems (high speed) that free up passageways for freight transport as well as move people, facilitating compact urban development. Japanese experience is key.
- Bus rapid transit systems with fluid, multimodal transport integration. Guangzhou, China BRT is model.
- Urban forms (jobs/housing) that plan for population growth around a more robust transportation choice system.
- Finance innovations (congestion pricing, gasoline taxes) that capture revenue sources to improve existing infrastructure. Korean eco-driving system is an example.
- Megaregion planning that takes into account the interconnectivity of spatial systems, economically, socially, and culturally. Asian countries are building public transit systems under the assumption that they will go hand-in-hand with widespread economic growth.

Connectivity within Transportation, Land Use, and Energy Systems

On what level of governance is a regional transportation system best addressed? At the local level, where the scope of decision making is much more limited?

How can we enable the political system at all levels to make the right investment decisions going forward?

As the supply chain for economic activities becomes increasingly global in scale, the links between transportation and the economy grow more complex and demand a radical change in perspective from a local, state, or national system to one that involves many more variables. A global system has many "moving parts," and only a few components are consistent or predictable. In addition, subsystems in the global economy work on a variety of different scales (ownership, profit, and coverage) and often overlap and affect one another in different ways. Such complexity presents great hurdles to creating a sustainable transportation system that encompasses all services and components. A key to successful systems integration might be the standardization of worldwide energy standards.

Planners and policymakers in the United States are facing major challenges in their efforts to address urban energy and transportation systems within the urban environment of today. The land use and development patterns in force today are the product of sprawl from past decades and will unfortunately affect demand for transportation systems for the foreseeable future despite increased interest in sustainable modes of transportation. Existing connections between transportation links and resources, workforce, and customers have exacerbated

logistical sprawl, creating huge impacts on congestion and contributing greatly to increased waste of energy and emissions from passenger and cargo vehicles that are required to travel not only within urban centers but to suburban and exurban areas where warehouses, storage facilities, and workers are usually located.

The traditional connection between land use and transportation has been two-way, with land use determining necessary transportation patterns, and existing transportation patterns creating their own logic for future land uses. While it is vitally important to now view transportation systems from a broad regional perspective and advocate for land use and municipal decisions that impact a wide network, it is often very difficult to do so because the systems cross existing political boundaries and involve multiple levels of government. US energy and transportation planners and policymakers need to better understand the overall social, political, and environmental dynamics that make up a transportation system in order to more strategically evaluate promising new technologies and policies in place or being developed in Asian cities and elsewhere which could be adapted in the United States. These represent a variety of different scales of transportation systems in terms of ownership, profit margins, and coverage, including small- to medium-scaled transportation solutions that may address special needs.

Planners and policymakers need to **better understand the overall social, political, and environmental dynamics that make up a transportation system** in order to more strategically evaluate promising new technologies

While the context in which a transportation system works can be conveyed in articles or summarized in best practice literature, in-the-field visits are often the best way to learn. The International Highway Technology Scanning Program was established to evaluate promising new technologies and policies abroad which could be utilized in the United States and to draft strategic implementation plans. This scanning program adds expertise and funding support to accelerate the adaptive process and expand the resource base for domestic transportation policies.

Key Points

Transportation is all about regional social, economic, and environmental sustainability.

Transportation planning should be comprehensive and integrative for the long term, and incorporated fully into municipal land use plans.

Investment in transportation infrastructure is path dependent; once created, it then creates its own logic. The key is to stop reproducing failures.

Small-scale transport has potential for expanded local investment and upscaling.

Certain modes/systems of transport can provide energy and cost savings as well as generate revenue.

Transformations and Paradigm Shifts

> ***Could a race to the top similar to the innovation programs in education be possible within the transportation and energy sectors?***

Transportation, in and of itself, is transformative—it impacts the value of goods and supports economic development. The existence of a transportation system, too, creates its own inertia that blocks the momentum for change in the future. The challenge is to use such transformative power mechanisms to change conventional transportation systems as land use, market forces, and the transportation needs of a society change. New systems must be flexible enough, however, to serve new masters in the future.

The focus in transportation must be changed **from moving cars to moving people**

Changing the focus in transportation from moving cars to moving people is one necessary paradigm shift. Carpool and bus lanes, for instance, focus on the number of passengers rather than the number of vehicles. Congestion pricing is another example, where high occupancy roadway tolls discourage travel in high volume traffic areas as well as create a new funding source to support alternative transportation systems. Other innovative policies, especially related to new governance models and incentive programs, can successfully promote greater utility and offer expanded opportunities for knowledge transfer throughout the region.

In the United States there have been a few innovative programs aimed at increasing energy efficiency, including a major update of the CAFÉ (Corporate Average Fuel Economy) standards for cars and light trucks. After a nearly thirty-year period of stagnation, the new rules for high-consuming categories of vehicles now cover greenhouse gas emission standards as well as fuel economy standards.

There are opportunities to influence energy consumption in the developing world by leapfrogging to new energy and transportation innovations. For example, the Chinese government's support for the New Energy Vehicle Program and the Ten Cities, Ten Thousand Vehicles Program has stimulated involvement from academia, industry, and business to develop the necessary infrastructure, vehicles, components, and support services needed for an electric vehicle system. The scale of this program demands attention from countries abroad who may hope to sell cars to Chinese consumers.

While transportation and energy systems must be able to adapt and mitigate future stresses, it is important to remember that it remains difficult to know what these stresses might be in the future. The further out in time we go, the less is certain. China's New Energy Vehicle Program, which seems to hold a lot of potential, is based on the critical assumptions that (1) the cost of batteries will drop by more than 50 percent by 2020; and (2) the new e-vehicles will rival gasoline vehicles in total cost. When confronted with uncertainties about the future, however, many people simply use the current situation as their basis for planning.

Some examples of other solutions that might work include:

- Aerotropolis, a new urban development form that refocuses global economic development opportunities by placing airports in the center, with cities growing around them, connecting suppliers, executives, and goods to the global marketplace
- Switch from minimum parking to maximum parking requirements
- Limit purchase of cars (Shanghai)
- Location-efficient mortgages (lower rates if you buy homes near transit hubs)

Key Points

A sense of urgency is needed to inspire a desire to deal with future transportation and energy challenges in the absence of a crisis.

Global policies and standards should be localized. It is important to understand the impact of global issues at the smaller scale, such as resource mobility and food security.

Not all solutions work everywhere; some may be right at the city level but wrong at the national or global level.

Assessment of environmental risk related to transportation policies and practices should be people-centric.

The Role of Personal Behavior in Transportation Systems

How can federal policies promote less reliance on vehicles?

What incentive systems exist for individuals to use more efficient modes of transportation?

How can transportation systems be designed to service the poor and their economic activities since they are the ones who mostly use these systems?

Under the US democratic political system, the historical lack of public willingness to support initiatives with public dollars is glaring—especially in regard to public transportation. In many small, developing cities, implementation of sustainable transportation alternatives has failed due to lack of public support. One factor contributing to this lack of support is an ingrained social and cultural shaping of transportation demand where people are biased against energy-efficient modes of transportation. Buses, bicycles, and walking have long been under-

appreciated as important transport choices in America. The resurgence in the use of bicycles in urban settings is a very recent phenomenon.

Much of the energy consumed within the urban environment today supports the transportation of people and goods—activities that contribute to high levels of greenhouse gas generation

Changes in the status quo, however, can be initiated by government or other public and private entities by creating a viable market for sustainable transportation and energy options that addresses public perceptions, interests, and decision making. Solutions must be linked to reality and not offered as theories which have little if any practical application. Some possible realistic solutions include eco-driving systems which have been developed using interdisciplinary approaches. The public can play a decisive role in knowledge transfer of best practices in transportation. Public education that focuses on the end users and the benefits of new technologies and/or modes of transit, therefore, is vital.

A people-centric assessment is needed to create a new knowledge base, where social cost-benefit analyses of different modes of transport can be used to examine new systems. Rethinking the way we work and play to minimize transportation is a macro-level exercise which would help inform visionary developments in transportation systems. In addition, technology and policies should not be separated, and as new technology is developed, transportation systems should keep adapting. This can create fluid multimodal integration in transportation systems which can drastically improve efficiency. New best practices can also come from both developed and developing countries, and these should be examined for applicability in new locations.

It must be kept in mind that modifying personal behavior by new system installation will affect other industries. For example, a new urban rail system will affect passenger car usage. Other changes such as the expansion of virtual commuting to work also affects transportation demand. Working from home may help with transportation issues by decreasing the number of users on roadways. However, fewer work trips means that there will be an increase in unpredictable trips to diverse locations which are much more difficult to model.

Key Points

Rethinking the way we work and play can potentially minimize transportation routes in the future, with shorter commutes that save time, energy, and money.

The social costs and benefits of different modes of transport should be analyzed, such as emissions, congestion costs, and health impacts. It is important to acknowledge the appropriate roles for different modes of transportation.

The needs of the informal sector (those with the least political power) should be a priority when planning urban transportation systems. Non-motorized modes of transport should also be considered, such as pedestrian walkways and bike lanes.

SESSION III
Promising Practices of Inclusive Economic Growth

Discussion paper on Urban Transformation and Inclusion of the Urban Poor in Asian Cities: The Case of Participatory Planning

Presented by

Ms. Banashree Banerjee, *urban planner and independent consultant, New Delhi, India; associate faculty, Institute for Housing and Urban Development Studies, Erasmus University, Rotterdam, Netherlands*

Introduction

Evidence shows that although the role of Asian cities in economic development has lifted a large number of the urban poor out of poverty, there are still 375 million urban dwellers who earn less than $1 per day and have little or no access to land, housing, and city services. There is an effort to make Asian cities more equitable and inclusive for the poor with two interlinked concerns which are related to provision of housing, services, and issues of voice and citizenship.

While the economic development of Asian cities has lifted large numbers of the urban poor out of poverty, **there are still millions of urban dwellers who have little or no access to land, housing, and city services**

Decentralization is seen as one of the pathways to inclusion. Decentralization took root in Asia in the 1990s, driven by political change or structural adjustment. It potentially offers space for responsive service delivery and citizens' voices in decision making, but evidence shows that this cannot be taken for granted. There has to be a deliberate attempt to create legitimate space for citizen engagement. Participatory planning in local government is seen as such an instrument in several countries, but the results of decentralization as well as participatory planning at the municipal level have at best been mixed.

In the Philippines and India, a large number of local governments have used the decentralization process to promote participatory planning and cultivate a sense of ownership and buy-in among the urban poor. In India, the 74th Indian constitutional amendment decentralizes certain powers to municipalities, including responsibilities for poverty reduction and the provision of social services for their poor populations. One result of the decentralization process was the introduction of the Municipal Action Plan for Poverty Reduction (MAPP) in 2000. This program has become a model for participatory planning, with power and responsibility spread among participating municipalities and residents, and has clearly made a difference for the poor living in urban areas in India.

Municipal Action Plan for Poverty Reduction (MAPP)

MAPP was initiated across 42 secondary towns of the Indian state of Andhra Pradesh as part of the Andhra Pradesh Urban Services for the Poor program undertaken with support from the United Kingdom's Department for International Development. MAPP has since been up-scaled by the state government to cover all 136 towns of the state and linked with the annual budget cycle. It has been replicated, with suitable modifications, in 40 towns in West Bengal and 14 cities of Madhya Pradesh and has informed the city development plan under the National Urban Renewal Mission at the national level.

Asian cities can become more equitable and create legitimate space for citizen engagement of the urban poor if they adopt participatory planning processes

MAPP represents a new way of planning that is very different than the conventional practices used in municipalities throughout India. The MAPP process consists of a shared vision for the city, a strategy for poverty reduction that includes municipal reforms, prioritized actions for improving environmental and social conditions in poor settlements, and actions for strengthening organizations of poor women by outlining timelines, responsibilities, and costs involved.

Each of the municipalities wishing to take advantage of the program funding had to prepare a MAPP in participation with a broad range of stakeholders including elected officials, municipal staff, community-based organizations, welfare and trade associations, professional bodies, chambers of commerce, government departments, and others. While participatory planning at the city level has long been considered in theory to be a suitable vehicle for overcoming the limitations of development planning, MAPP proved to be a challenge to implement, encountering hurdles as municipal workers were required to take on new roles and responsibilities. Many MAPP participating municipalities have faced serious gaps in terms of representation, knowledge, and skills when trying to implement their plans. This experience has underscored the importance of building capacity at the municipal level as a key part of the process of building participatory governance.

Strategies Implemented During the MAPP Process:

- Establishment of a Municipal Strengthening Unit to hand-hold and support municipalities (winning political acceptance and creating champions)
- Development of clear, simple, and flexible guidelines prepared in consultation with diverse groups of stakeholders (pilot testing and consultation)
- Use of simple, hands-on analytical and decision-making tools and techniques (clear roll out of program activities)
- Adoption of simple-to-complex and strategic planning that allows for strengthening of municipal government resources/capacities and annual program review/course correction

- Reporting of initial, quick, and tangible results (self-set targets)
- Attention to increasing the participation of marginalized groups, including the urban poor and women

Barriers/Challenges That Emerged During the MAPP Process

- Tendency of higher-level elected representatives to take over
- Certain municipal government departments were not fully cooperative
- Top-down and "external" targets made it difficult to remain committed
- Delays in approvals at state level
- Delay in recruiting community development staff
- A change in the role of a civil society organization can lead to confusion over responsibility and accountability
- Dependence on project-based and short-term funding that did not always correspond to project funding timelines (impeded long-term changes)
- Disgruntled middle-level staff who do not understand the value of the process and view tasks as extra work
- Multidisciplinary working groups are not always possible
- Spokespeople can hijack the project and usurp participants' sense of ownership
- Weak strategy for program replication

Summary of Dialogue – Participatory Planning

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

Today, many cities in Asia are focusing on efforts to expand participation of marginalized populations in urban development policy and programs to better meet their needs, especially in regard to access to housing and other basic services. Three symbols of hope that these efforts will be successful are:

- Market forces are generating more wealth production that can then be redistributed to the poor.

- Civil society groups representing the poor are increasing their influence on local government.
- Decentralization, which is currently a common process in cities across Asia, offers local governments more possibilities for responding to the needs of their citizens.

Processes That Support Inclusive Governance

What governance strategies and approaches work best to encourage local governments, civil society, and individuals to become more actively engaged in the participatory planning process?

How can linkages between government and civil society be created to encourage and support true collaboration and avoid past adversarial relationships?

Does the size of the city matter when deciding which participatory strategies to implement?

As cities face mounting pressures to become more competitive, they often adopt new policies and measures that exclude or negatively impact the poor (e.g., large-scale housing eviction and demolition policies in the last two decades have been in force in cities like Delhi and Mumbai, India, and in Dhaka, Bangladesh). In addition, most participatory planning regimes do very little to change historically inequitable land use policies and regulatory frameworks which are responsible for the exclusion of the urban poor in the first place.

A robust participatory planning process must be built step by step, with a focus on changing the attitudes and behaviors of everyone involved—local government, civil society, and individuals

A key lesson learned from the MAPP process in India was that in order to turn the good principle of participatory planning into a best practice, is had to be "sold." Initially, local governments did not have the capacity to undertake the effort, and nongovernmental organizations chose to not become involved. Even with the financial support (carrot) from the central governments and donor agencies, the practice was not institutionalized without a real change in attitudes and behaviors on the part of civil servants, members of civil society, and individuals. While the MAPP experience indicates that the participatory planning process has built social capital and that communities continue to leverage both internal and external resources in the long term, more research needs to be conducted to better understand how and why the process has worked.

Another lesson learned from MAPP when building citizen input was the importance of beginning with a few simple steps (change starting at the street/grassroots level) and then systematically expanding and evolving to larger actions and measures at the municipal level. There was a deliberate attempt to engage citizens.

MAPP was viewed by municipal governments as a political process, with the state playing the role of capacity builder. Civil society groups representing the poor, as well as individual poor residents, began to think differently about working with the government, especially in light of the new mechanisms

established by municipalities to encourage such collaboration. In the past, the focus was on improving the conditions of the poor. Now the concept was to create a demand for the poor.

Key Points

Improved outcomes are more likely within a participatory framework where there is a balanced approach to process, outcomes, and benchmarking.

Change management is critical, but it requires time and commitment.

The process may start with incentives (money for projects), but it must end with the "buy-in" of government, civil society, and individuals to be successful in the long term.

The Role of the Individual in the Participatory Planning Process

How important is it to manage expectations?

What happens if individual champions of the participatory planning process later become government bureaucrats?

The role that individuals play in participatory municipal governance is most often determined by the government's attitude and approach to their input. The government must cultivate a deliberate venue for successful engagement of the public. People need to believe that their voices are being heard. An example of this is "I Own Karachi," a campaign developed in Pakistan for engaging citizens in a proactive volunteering program. The campaign was successful primarily because it built trust between the local government and the people. Everyone understood that actions speak louder than words and therefore the government had to deliver. Without such an understanding, no innovative project can succeed.

When engaging individuals in a group planning activity, there are several natural tendencies that need to be overcome. These include self-promotion (the desire for personal credit for completing work) and personal priorities (a desire to protect one's own self-interest). Individuals also generally do not want to shoulder risk for their involvement. Taking these concerns into consideration is important when encouraging individuals to become more involved in governance.

When individuals are engaged in a process, they develop expectations early on and require incentives to continue their participation, including being able to see tangible results such as a product or improvement by the time their participation is over. Educating individuals about the benchmarks used to chart a process's course can help them understand and visualize progress toward a goal as well as see past their own personal interests.

Key Points

Participation is a messy process; it takes courage for individuals to step forward.

Managing expectations is essential when engaging the public in participatory governance activities. People want their voices to be heard and to know that their voices will alter the result. They want to see a product, a policy, or program change at the end of the process.

The Role of Civil Society and Nongovernmental Organizations

What is the proper role of civil society organizations? Can they work together with governments to bring about change?

Are nongovernmental organizations alone responsible for building capacity to organize communities?

What does it take to energize civil society organizations to become stronger champions of the participatory planning process?

One of the most important trends in city development in Asia over the past two decades has been the emergence of vocal organizations formed by the urban poor, influencing city governments against anti-poor actions and also forming partnerships with the government and the private sector to improve access to land and housing. Nongovernmental organizations can help to aggregate voices to create an authentic voice for the community. There is an issue, however, when determining the authentic voice of the urban poor. Oftentimes, the actual concerns and wishes of the poor are not clearly represented. Instead, more vocal and educated "representatives" talk for them. A verification process should be put into place to ensure true participation of marginalized populations and individuals.

One of the most important trends in Asian city development over the past two decades has been the emergence of effective organizations led by the urban poor

City authorities, however, usually do not allow outside influence beyond the project level and even when urban poor organizations do get more influence at the city or national level, negotiating and maintaining this influence is always a struggle.

In addition to the challenges to overcoming municipal bureaucratic hurdles, nongovernmental organizations often face a sense of distrust from the government as well as from some individuals and groups, precisely because they work outside of the government. This presents an internal contradiction and political issue: can civil society work effectively on community development issues as part of the bureaucracy? Some nongovernmental organizations feel that working with the government is like "sleeping with the enemy," but understand that they need the government to support policy change and innovative practices, especially regulation and financing. In addition, many poor communities

distrust nongovernmental organizations that are aligned too closely with the government, assuming that they are working "hand in glove" and are being co-opted by the process.

Local governments and civil society must together address the issue of trust in order to advance inclusive, participatory planning practices. There are many ways to accomplish this including education and community outreach, acknowledging the importance of local knowledge, and advertising the positive outcomes/results of past collaborations. In Sendai, Japan, after the 2011 earthquake and tsunami, the city government wanted to involve residents in a participatory process for rebuilding, but they were nervous since there was a history of mistrust between citizens and the local government. At first they asked local ward managers to be advocates for the residents, but quickly realized that because they were part of the political system, they were not trusted either. Ultimately, the city identified residents/informal leaders in each district to work alongside the ward managers to build collaboration and trust.

To foster confidence and cooperation among all stakeholders, civil society organizations must be able to exhibit broad expertise, knowledge, and the capability to successfully serve as watchdogs as well as advisors and intermediaries between the public and government decision makers. In those cases where civil society leaders are able to move up the political ladder, their organizations can benefit by gaining more authority to bridge the divide between civil society and the government.

Key Points

Nongovernmental organizations may not always represent consensus in a community when there are multiple interests at play.

Leaders of urban poor organizations should promote participation based on shared vision and goals and coordinate activities with other like-minded civil society organizations (strength in numbers).

Nongovernmental organizations should work to strengthen the community's bargaining positions in both the political and private sector (marketplace) arenas and use print, broadcast, and online media to spread their messages and build support.

Civil society organizations should not take on the role of service providers, especially since they cannot be held accountable like the government.

It is important to remember that the municipal government has to provide services to the whole city, not just to the poor.

The Role of Government

To what degree does stronger leadership mean a more successful program?

Do civil servants engaged in the public participation process see themselves as decision makers or facilitators/advisors to decision makers?

The degree to which government and politicians truly encourage participatory governance is vital to the inclusion of the poor in the process. Politicians must demonstrate that they care. Well-designed participatory projects can quickly flounder when government officials are not fully committed to supporting participatory processes. For example, to be eligible for project funding under MAPP in India, government officials in some cities just went through the motions to gather public input. Such actions discourage participants from becoming involved in future projects.

The proper role for government should include allowing and encouraging involvement of the widest number of stakeholders (including the poor), making information available, and deciding on the best solution. It is through government actions that projects achieve the large scale needed for success. Different sectors in business and civil society will either engage or withdraw from a project depending on their interests, and therefore the government must be the leader and engine that keeps the project on track.

In countries where societal goals filter from above to below, new incentives from the central government are needed to support participatory practices. Constitutional action is one approach to creating the necessary channels through which citizens can participate in municipal governance. Sometimes a crisis creates urgency and shakes the government loose from normal work priorities, providing the catalyst needed to reach out for support from stakeholders. In these instances, good can result if the new participatory governance structures become institutionalized once the crisis has passed.

Key Points

Participatory planning should be institutionalized within a governmental framework to protect the process from being dependent upon different government regimes and political priorities.

Mandated coordination among government departments and the provision of incentives such as training for mid-level workers is critical to success.

SESSION IV
The Urban Water Cycle and Public Health

This session included two discussion papers presented back-to-back, followed by open dialogue. Unfortunately, Dr. Seetharam Kallidaikurichi was unable to attend the seminar, and the paper below was presented by his research assistant, Ms. Mingxuan Fan.

Discussion paper on The Centrality of Water and Sanitation for Human Development: Policy Issues for Asian Cities

Presented by

Dr. Seetharam Kallidaikurichi, *director, Institute of Water Policy, Lee Kuan Yew School of Public Policy; director, Global Asia Institute, National University of Singapore*

Ms. Mingxuan Fan, *research associate and program manager, Global Asia Institute, National University of Singapore*

Water is essential

for life, health, dignity, empowerment, and prosperity

Introduction

In 2010, the United Nations declared "access to clean drinking water" a basic human right, stating that water is essential for life, health, dignity, empowerment, and prosperity. Failure to provide universal coverage of improved drinking water has secondary impacts on females, thereby widening the inequality between rich and poor as well as females and males.

Under the Millennium Development Goals, increasing the coverage of safe drinking water is one of the most important dimensions in measuring a country's success in the water sector. The progress toward this goal is measured by the proportion of population with access to improved drinking water. Since 1990, most of the Asian countries have made significant progress, with coverage rates much higher in urban areas than in rural areas.

Index of Drinking Water Adequacy

Recognizing that "proportion of population with access to safe drinking water" as an indicator is not enough to assess a country's level of drinking water adequacy, the Institute of Water Policy at the Lee Kuan Yew School of Public Policy,

National University of Singapore, has devised the Index of Drinking Water Adequacy to comprehensively evaluate country performance in providing adequate drinking water in terms of resource availability, access rate, actual water use for domestic sector, quality of water, and capacity to buy water.

Among the 145 countries in the global Index of Drinking Water Adequacy, most of the Asian countries rank in the second half of the Index, with the exception of Japan, Singapore, Malaysia, and South Korea. Apart from illustrating each country's relevant standing in terms of drinking water adequacy, the Index also articulates the relevant weaknesses in the water sector of each country, where more focused efforts on the part of government are required.

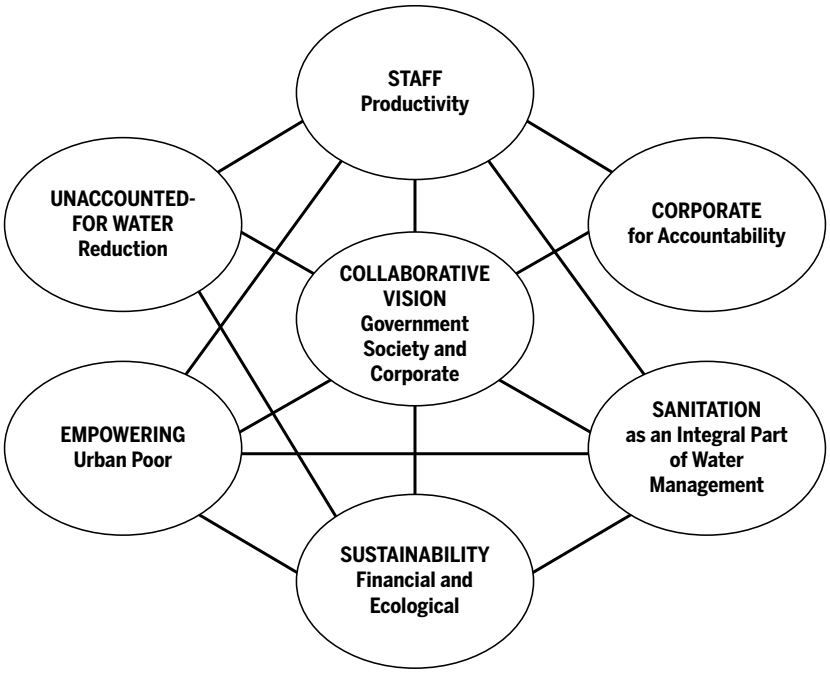
Addressing Urban Water Challenges

Urban water challenges can be categorized into five main areas, corresponding with each of the components in the Index of Drinking Water Adequacy:

- Water availability
- Access to water
- Capacity to buy water
- Quality of water
- Domestic water use

Some cities have come up with successful solutions to one or more of their urban water challenges. Singapore's constant need to address physical water scarcity, for example, has resulted in new ways to increase catchment areas, reuse water, and expand desalination efforts. An innovative local solution taken by water utilities in Manila to improve water coverage includes lowering the cost of network installation to meet poor residents' low capacity to pay. Bangkok's efforts to better monitor and report on water quality has increased citizen use of city tap water (certified safe for drinking); and Phnom Penh has successfully reduced non-revenue water in order to close the gap between water production and consumption.

It is important to consider how these best practices have been developed and implemented within the context of each city's political and social environment. It is also important to acknowledge that the adoption of best practices is not a stand alone factor in achieving successful urban water management. In each city, there are many other aspects that have contributed to improvement in water management. These aspects can be summarized in the following success model:



Insightful leaders and capable practitioners are both critical to the successful replication of best practices. They both need a comprehensive understanding of water challenges and the ability to use their own expertise on local circumstances to tailor solutions for their city. Lack of political commitment in many cities is partially due to the lack of knowledge about the operation of the municipal water sector or the urgency needed to address challenges in the water sector. The different political, economic, and institutional environments often have doubts about the efficacy of replicating best practices from elsewhere. It is a valid point to a certain extent, but there has never been a one size fits all solution. Local adjustments to global knowledge can effectively produce suitable measures for any city.

Discussion paper on Integrated Urban Water Management in Asia

Presented by

Dr. Kalanithy Vairavamoorthy, *director, Patel School of Global Sustainability, University of South Florida, Tampa, Florida, USA; co-chair, International Water Association Cities of the Future Program; and co-coordinator, UNESCO Urban Water Program*

Introduction

Today close to one billion people on the planet lack access to potable water sources, and two thirds of them live in Asia. Water resources are increasingly

being stressed in large part due to rapid urbanization and population growth in cities and the global impacts of climate change. In addition, the existence of emerging contaminants that cannot be removed by conventional treatment technologies are further threatening existing water sources.

Asia's urban water systems are for the most part poorly planned, inadequately designed, and operate without adequate maintenance procedures. It is a technological and financial challenge to maintain and upgrade aging and deteriorating water distribution and sewer infrastructure that is plagued by high leakage leading to cross contamination of potable water. Cities in Asia often lack the necessary institutions for addressing such issues. The chronic dysfunction of institutional arrangements is a challenge Asia is facing in its ability to provide effective water supply and sanitation.

Integrated Urban Water Management

Integrated urban water management is a new approach that provides cities with a **comprehensive environmental, economic, and social framework**

Integrated urban water management (IUWM) is a new approach that has great potential for addressing Asia's urban water challenges—one that provides cities with a comprehensive environmental, economic, and social framework for planning and managing all water systems. IUWM focuses all components of the urban water cycle including the availability of quality water resources, the proper handling and safe disposal of wastewater and storm water, and the reuse of wastewater and storm water for other purposes.

In most Asian cities, centralized water and wastewater systems are the technologies of choice despite major drawbacks such as high investment costs, lack of flexibility, and high freshwater and energy consumption. In most cases, separate institutions are responsible for the different components of the urban water system. The lack of coordination between different institutions has resulted in isolated management programs and disintegrated databases.

Game Changing Technologies and Approaches

Historically, the major drivers for IUWM strategies have focused on the need to improve public health and hygiene in urban areas. New drivers include protection of the environment and preservation of ecological integrity, efficient use of scarce resources, and viewing water as an economic good in the marketplace. IUWM today aims to make use of innovative technological solutions for urban water systems, such as membrane filtration systems, advanced oxidation, hybrid systems of natural and advanced treatment, microbial fuel cells, and electrochemical processes. Additionally, innovative approaches in IUWM can be implemented in Asia to increase efficiency and expand reuse potential.

Some Global Experiences of Integrated Urban Water Management

In the last ten years, several cities in developing as well as developed countries have gained experience with IUWM approaches. In São Paulo, Brazil, for example, IUWM strategies have been expanded not only to address the technical, institutional, and governance aspects related to the provision of urban water services but also to guide housing and transport policies. A World Bank

initiative in Tegucigalpa, Honduras, established a stakeholder group made up of institutions and civil society organizations that worked together to address urban water challenges. Based on the group's input, a short- to medium-term water management plan was developed to focus on investments, studies, and institutional strengthening measures. The World Bank has used this strategy to introduce IUWM in other cities in Central and South America.

In Melbourne, Australia, the city council used IUWM principles to develop policies and guidelines that considered all components of the urban water cycle, including water consumption, storm water management, wastewater, and the natural water environment. Faced with severe drought and rapid population growth, the council engaged key stakeholders in the process including local water services operators, the commercial sector, and the general public.

Shenzhen, China, is an example of the institutional transition toward IUWM. It became one of the first cities in China to combine nearly all water-related functions into one agency (Shenzhen Water Resources Bureau) responsible for water supply, sewerage, and reclaimed water. An integrated institutional structure has been put in place that enables the agency to work cooperatively with other agencies to solve problems, reducing conflicts and gaining synergies between different parts of the urban water sector.

The use of IUWM has greatly improved the efficient use of limited water resources in Singapore by establishing close cooperation between the Public Utilities Board and other urban departments such as urban planning and national parks. One result of this integrated approach is the utilization of rainwater harvesting and reuse of wastewater for the city state's water supply system.

Roadmap for Implementation of Integrated Urban Water Management in Asia

Implementing IUWM in cities is not a solitary activity but rather a process with multiple levels. To facilitate the institutional changes that need to be undertaken in Asian cities towards adopting IUWM strategies, several activities are required:

Implementation of Innovative Approaches and Technologies

Enhance the efficiency of water production and reduce water losses, employ innovative technologies and approaches to harness energy and nutrients from waste streams, and exploit uses of alternative resources.

Institutional Reform

Establish a coordination unit to overview, assess, plan, and optimize the entire urban water system including integration with other urban services like traffic, energy, etc.

Capacity Building

Provide core skills and competences in participatory processes, strategic planning, interdisciplinary perspectives, transitioning institutional systems, and finance instruments; develop new curriculum for training institutions; and provide continuing education and training activities to update the skills of practitioners already in the field.

Stakeholder Engagement
Break barriers of horizontal and vertical information sharing to establish a joint understanding, a consensus about solutions, an agreed strategic course accepted by all relevant stakeholders (people, industry, agriculture, and nature). Encourage close coordination between stakeholders and the political decision makers to gain the required legitimacy.

Strategic Planning Process
Develop a strategy that addresses all parts of the urban water cycle as well as other urban service sectors in an integrated way, as well as provide the framework to shift from the current conventional system to an IUWM system.

Summary of Dialogue – Urban Water Cycle

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

Can water be both a human right and a for-profit industry?

Water is poor peoples' claim to urban equality

The lack of access to potable water in urban areas disproportionately impacts the poor, children, women, and the handicapped. For example, slum dwellers pay disproportionately higher prices for their water, but water for bathing is necessary for poor children and menstruating girls to be able to attend school.

Many Asian countries have made progress over the past decades, especially in expanding water coverage in urban areas. With high projected growth in urban areas in Asia, however, water supply becomes an even more critical issue for the future, especially in periurban zones. Those living in cities have begun to view water delivery as an expected service. Improved water delivery is an overarching urban issue, not one limited to slum upgrading.

Shifting to a New Perspective

Can a city seamlessly transition from a static water system to an adaptive system?

What will it take to encourage cities to adopt and institutionalize an integrated view of development?

Ensuring water delivery and improved water quality is a challenge for cities in Asia where water delivery systems are still being constructed based on 19th century principles of city growth (highly centralized, inflexible, and energy intensive). These systems limit the ways cities can retrofit or add new areas to existing systems suffering from strained capacity. There is a tendency to tinker with an existing system and to look for quick fixes and short-term pay-offs. In addition, the international development community—with the funds and expertise to build or rebuild such systems—are most often interested in

replication and not innovation. Despite such barriers, it is important for cities to begin to think long term and approach the redesign of systems based on the priorities and goals of water management. This shift in perspective from self-interest to a more holistic view can take a number of forms.

A new paradigm for water management systems includes shifting the main driver for innovation from consumption demand to a strong emphasis on public health. Governments should be held responsible for the public's health and required to support essential water delivery toward that end. This shift involves re-imagining the roles that some nongovernmental organizations and private developers play as water service providers. They often hinder more effective management by government. Water service delivery programs run by private developers often provide services only to those consumers who are able to pay for the service, thus ignoring the poor. Governments, when seen as the sole provider of essential services such as water, can more easily be held accountable. In addition, government-run delivery systems can more effectively address integrated water management issues on a large scale.

Ensuring water delivery and improved water quality is a challenge for cities. **Urban leaders must be knowledgeable and equipped to think long-term in a rapidly changing world** and willing to cultivate an atmosphere of innovation

In order to change ideas, attitudes, and actions, urban leaders must be knowledgeable and equipped to work in a rapidly changing world. Civil servants need to be better trained and incentivized in order to cultivate an atmosphere of innovation. Such changes offer new possibilities in managing services in rapidly developing areas in Asia. It should be kept in mind, however, that water management systems must ultimately be reflective of the institutional environment under which they operate. Capacity will always be a big issue; decentralization is not a religion and in many cases would not be appropriate.

An involved public sector can facilitate the transition to a more adaptive water delivery system. The new emphasis on community development can be supported by government in a variety of ways, including training facilitators to meet with cities and stakeholders to address future pressures, share information, and gather feedback. While this can be a slow process, effective facilitation can result in important benefits for urban populations, such as incorporating cultural issues into management processes. In addition, government support for improved demonstration projects that highlight new best practices in integrated water management can help fight resistance to decommissioning traditional water plants and gridded systems.

Key Points

Governments should adopt a pro-people approach to water management that includes shared responsibility, incentives, and equity (all water equals good water).

The developing world must balance agriculture with urban water demands and recognize that an increase in the price of water equals an increase in the price of food.

Opportunities in Developing Countries

What will it take to operationalize the transition to an integrated urban water management system?

How can technological solutions be incorporated into a holistic model where everything is connected?

There is a small window of opportunity to leapfrog over formerly entrenched practices in developed cities to a more innovative water delivery system, especially in rapidly developing areas in Asia where much of the land has yet to be developed. The challenge is to construct both the framework of analysis to determine where water is needed and the infrastructure of a water delivery system that will stand the test of time (once designed and built, infrastructure can limit future possibilities for up to 50 years).

The global water crisis is essentially a crisis of governance. Physical water scarcity is not the main issue. It is the mismanagement of water resources, inefficient water use, and deteriorating water quality

Such a shift in direction will most likely come from emerging cities where the lack of existing infrastructure presents a great opportunity to implement new institutional approaches. In older cities, however, it is very difficult to trigger the change required to adopt an integrated urban water management regime.

Proactively planning new water delivery systems instead of responding to crises is key. It is also important that the government undertakes water management planning in a spirit of collaboration to ensure that all stakeholder concerns are taken into consideration (including those raised by government agencies with overlapping or competing responsibilities as well as public and private sector entities). The ultimate goal, integrated water management, will not be reached if competition is encouraged where collaboration is needed. The SWITCH project (Sustainable Water Management Improves Tomorrow's Cities' Health) demonstrated the concept of integrated water management in eight cities worldwide and provides a good roadmap for integrating water management in Asia's urban areas. SWITCH focused on the following approaches: use of innovative strategies and technologies, institutional reform, capacity building (finance and interdisciplinary perspectives), stakeholder engagement, strategic planning, and demonstration projects.

Hanoi was an ecological city in 1992 when it produced its own water, fish were raised within city ponds, soap did not pollute because most people could not afford to use it, latrines were managed and harvested daily for night soil, and there was little pollution runoff due to the very small number of cars on the roads. Today, after years of rapid development, the city faces critical water quality issues including sewage treatment and vehicle-polluted runoff. Changing Hanoi's present water delivery system to address these and other issues is vital to supporting this growing city.

Developing countries in Asia offer increasing sources of leadership in innovative water management techniques, where a new urban form of mixed use that integrates water management into the planning process is a worthy goal. Incorporating water into the land use planning process will redefine how downstream users

are related. Professionalization and encouraging entrepreneurship within the water sector are important for creating an atmosphere conducive to innovation.

Key Points

Innovative solutions to water management should incorporate values of decentralization and integration (holistic management).

Intergovernmental cooperation is a key component of a successful integrated urban water system.

The extent to which a technology is adopted in a society will determine the necessity of government involvement in up-scaling its adoption.

"Proven" technologies do not always equal appropriate technologies.

Some Promising Approaches to Improved Water Management and Delivery Systems

How can good leadership be replicated?

Who should be responsible for monitoring water quality?

Simply measuring access levels to water (which is one way of determining water security) does not take into account the complexities of water delivery. Some Asian cities have formulated innovative solutions, tackling water management and delivery challenges using different strategies. Keeping the cost of water delivery affordable has long been a goal for Phnom Penh and Manila. To this end, the two cities have lowered the cost of installing water networks in order to allow more residents to be connected to the system. Bangkok has developed new ways to monitor and report on water quality. Phnom Penh has made efforts to reduce non-revenue water sources in order to better link production with consumption.

In Singapore, the main stressor in the water sector was physical water scarcity which was uncommon among other Asian countries. Singapore has addressed this challenge by increasing catchment areas, the reuse of water, and desalination processes. Singapore has also subsidized the construction of pipes to reach poor urban communities, as well as created an incentive program for identifying unofficial water connections, thus reducing unpaid water use.

In some cases, solutions to water treatment challenges have also provided answers for energy needs. For example, water treatment can be achieved using natural processes that create useful wastes such as bio gas and algae. These byproducts can be harnessed to create energy through aerobic digestion. Another example

of innovative integration involves the urban planning process, where all forms of water use, including agricultural production (irrigation) and ecology (reforestation, etc.), are analyzed in connection with human consumption. In the past, water management often took into account only a single driver: human consumption. Reconciling competing objectives is a balancing act which is necessary to maximize the value added to the entire system.

There is a small window of opportunity in rapidly developing countries to leapfrog over entrenched, ineffective water-delivery practices and introduce innovative solutions

Such best practices have been made possible by multiple support systems. Leadership and commitment at the highest political levels are critical ingredients for successful water utility reform, backed by decisive efforts to build a motivated and capable workforce that is fully empowered to make improvements at the operating level.

Replicating these practices involves adapting each exemplary program to a new area's conditions, most specifically the local political, economical, and institutional environment (which can vary significantly from place to place). While it may not be possible to scale up every successful project, insightful leaders and capable staff, armed with the right knowledge and understanding of water challenges and best practices from around the world, can use their expertise to make adjustments to local circumstances and tailor solutions for their own cities.

Adopting an integrated water management system may require strong regional cooperation in the countries of South Asia and Southeast Asia, for example, where there are many challenges to this approach. Constructing a framework that can benefit multiple sectors is one challenge (e.g., engaging the agricultural sector and addressing irrigation efficiencies and subsidies). Another is how to address culturally sensitive concerns about the use of recycled water.

Key Points

Governments should consider tiered pricing systems for water to encourage equity for the poor where, for example, lower income residents would be charged for services based on their ability to pay and their water usage.

To ensure resilience, urban water delivery systems should include diversified approaches including catchment, water reuse, and desalination (where applicable).

Best practices are not stand-alone factors in achieving successful urban water management.

SESSION V
Governance and Management: Sharing, Adapting, and Implementing Global Knowledge and Emerging Best Practices

Discussion paper on Urban Governance and Management: American and Asian Cities Learn from Each Other

Presented by

Dr. Aprodicio Laquian, *professor emeritus, Center for Human Settlements, School of Community and Regional Planning, University of British Columbia, Vancouver, Canada; former acting director, Special Program in Urban and Regional Studies, Massachusetts Institute of Technology*

Introduction

An account of recent innovations in Asia on urban governance, management, and finance in *The State of Asian Cities 2010/11* (the first ever report from UN-Habitat to review and document trends in inclusive and sustainable urban development throughout the Asia-Pacific region) focused on six key urban developments in the region. These innovations have relevance to governance and management practices in the United States and Asia. The innovations are:

An interesting development in Asia over the past couple of decades has been the **shift from a narrow focus on the "business" of government to the broader "process" of governance**

The Increased Role of Civil Society in Urban Governance and Management
Most Asian cities continue to suffer from problems such as slums, traffic congestion, water shortages, energy shortfalls, natural and human-made disasters, and environmental pollution. In the past couple of decades there has been a shift from a narrow focus on the "business" of government to the broader "process" of governance, which involves the participation of many stakeholders such as nongovernmental organizations, community-based organizations, the private sector, organized labor, the mass media, academic institutions, issues-oriented groups, and other civil society organizations.

Institutional Reforms
Civil society organizations, because of their voluntary nature, are effective when they are small and run by dedicated leaders. In some instances, leaders of these organizations who are elected to local councils have tended to come from traditional political elite groups. A particularly worrisome aspect of the growth of civil society organizations in Asia is often their dependence on external resources

from international or bilateral assistance programs. When such assistance ends, these organizations often become ineffective.

Financial Reforms

Participation of civil society organizations in financial reforms has influenced local officials to become more responsive to citizen demands and has improved and raised the quality of public services by constantly monitoring and evaluating public decisions. Reforms like participatory budgeting have helped to direct public resources to projects that benefit urban poor and other marginalized groups.

Delivery of Urban Services

Many Asian cities lack resources for delivering basic services such as solid waste collection and water, sanitation, and energy provision. Civil society organizations have mobilized residents, usually from urban poor communities, to assist city governments in carrying out urban services.

Enhanced Role of Information Technology

A policy brief from the United Nations University listed the following as key roles of civil society organizations in governance:

- Identifying and publicizing critical issues
- Challenging abuse of power
- Building coalitions to formulate new policies
- Monitoring government performance
- Assisting governments to deliver service
- Setting norms
- Mediating between governments and citizens

Performing the roles noted above has been made easier by the development in information technology (IT) in most Asian countries. Print and broadcast media facilitate the dissemination of information about government policies and programs. The use of social media contributes to the formation of coalitions among civil society groups. Citizens can now easily monitor governmental programs and evaluate their effectiveness and efficiency. Activist civil society organizations routinely rely on information technology to challenge abuse of power by government agencies and officials. Some Asian countries have tried to curtail the spread of information technology but such efforts have been met with robust resistance by activists and civil society groups.

There are still a number of factors that need to be resolved: access to IT among the urban poor and marginalized groups remains limited; there are concerns about IT security and dependability; most e-systems in Asia are made up of complex and divergent systems that are not compatible with each other; and there is a tendency to utilize the latest IT hardware to appear modern when the need is for creative software that can be applied to e-governance.

Emphasis on Urban Infrastructure

One of the main drivers of economic development in Asian cities is the building of infrastructure for transportation, energy supply, water, sewer, and other systems. One financing approach used for urban infrastructure is public-private partnership that ranges from collaboration between government and private business to outright privatization. Key advantages of such partnerships are urban governments' access to capital for infrastructure projectors, the ability to use advanced technologies by private firms, and access to efficient, modern management techniques. However, a common problem with large infrastructure projects involving public-private partnerships is the overly cumbersome process used for appraisal and approval.

The Financial Challenge to Local Government Units

The fastest rate of urban growth is occurring in small and mid-size cities of less than half a million population

Most Asian cities have poor local financial resources because they depend on allocations from central governments for their annual budgets. Typically, major sources of revenue such as customs duties, income taxes, etc., belong to the central government. Local sources of revenue such as real estate taxes, vehicle taxes, etc., do not yield enough. A number of Asian countries have set up systems for rationalizing revenue allocation. Despite attempts to achieve equitable resource sharing, however, the dependence of local government units on central resources continues.

Governance and Management of Small and Mid-Size Cities

The fastest rate of urban growth is occurring in small and mid-size cities of less than half a million population which face problems such as poor infrastructure, low tax base, lack of trained managers and staff, and heavy reliance on central government resources. Despite the launching of decentralization measures in most Asian countries, authority and power continue to remain with central governments. Formal powers that entitle local government units to their share of public revenue may be incorporated in decentralization measures but actual implementation of such measures depends on political realities. In practice, local leaders often have to lobby mightily to get their funds released. The unpredictability of resource flows makes it difficult for local officials to devise realistic development plans.

Regional Development

To strengthen their power position and achieve their developmental potential, a number of local governments in Asia have formed alliances. A common innovative approach is to voluntarily get together and develop region-wide developmental schemes that build upon resource strengths and avoid harmful competition. This strengthens accountability of local governments and, at the same time, clearly specifies the responsibility of citizens.

Special Economic Zones

Special economic zones have been developed from scratch by the concentration of urban infrastructure, foreign and domestic investment, social amenities, and efficient governance structures in chosen sites to accelerate economic

development. Two unintended effects of such schemes, however, have been the strong reactions of farmers to the conversion of agricultural land to industrial uses and the questionable viability of special economic zones that do not have the needed volume of resources to become economically sustainable.

City Cluster Development

City cluster development involves prioritized investments in urban infrastructure and services that link a number of local governments though a coherent development strategy. The rationale is that public investments following a cluster development strategy will avoid piecemeal and fragmented infrastructure and create economic synergies, optimize competitive advantages of local areas, and generate alternative employment for workers in small and medium-sized enterprises.

Governance and Management of Metropolitan and Megaurban Regions

The main issue in metropolitan region governance is how to deal with jurisdictional fragmentation. This calls for a system that can balance the benefits from local autonomy to foster popular participation and citizen involvement on the one hand and the advantages of efficient delivery of urban infrastructure and services through a unified governance structure on the other. The main argument in Asia has been that unified metropolitan governance achieves efficiency in delivering urban services. They make possible rationalized tax structures, access to more financial resources, higher credit ratings arising from pooling local resources, and attracting highly qualified urban managers and staff members. Unified metropolitan governance, however, has been criticized for becoming too large, bureaucratic, inaccessible to citizen demands, and an unnecessary tier between state or provincial bodies and local governments.

Summary of Dialogue – Governance and Management

Questions raised, comments offered, and key points identified by the participants during the open dialogue session:

> *What roles do democracy and decentralization play in good governance?*
>
> *Are there different forms of decentralization?*
>
> *Can metropolitan government provide services efficiently under a "decentralized-centralized" system?*

There is a distinct difference between government and governance. Before the 1950s, government was referred to as public administration. Today the role of government has expanded to include participation of the public in the

governing of the society, and there are some key innovative trends emerging that are relevant to cities throughout Asia as well as in the United States:

- Increased role of civil society in urban governance and management (specifically related to institutional and financial reforms and delivery of urban services)
- Widespread use of information technology (identifying/publicizing critical issues, challenging abuse of power, building coalitions, monitoring government performance, assisting in service delivery, and mediating between government and citizens)
- Emphasis on urban infrastructure (desire for "world class" transportation, energy supply, water, and sewer systems)
- Financial challenges to local government units (where sources of local revenue are insufficient to meet needs, local governments are establishing new systems to obtain a larger share of funds from the central government, including sharing of tax proceeds, general purpose grant programs, sector-specific subsidy schemes, and rationalizing revenue allocation based on population size and degree of development)
- Alliances and region-wide governance and management schemes between and among small and mid-size cities (to strengthen bargaining power with the central government, including special economic zones and city cluster developments)
- New governance and management structures for major metropolitan and megaurban regions (needed to manage very large population centers, including autonomous local authorities like Metro Manila; mixed regional systems like those in Delhi, Dhaka, Karachi, and Jakarta; and unified regional systems like Beijing-Shanghai-Shenzhen)

Many Asian city governments are increasingly **applying private sector management practices** to public governing processes

Prerequisites for a New Approach to Governance

Are there ideological differences between the planning process in the United States and Asia?

Is social media a promising mechanism to bring citizens and governments together to solve problems?

How can information technology be used to support/expand more inclusive urban governance?

Who decides what issues have priority? Is building resilience to climate change more important than addressing poor sanitation?

In a rapidly changing urban environment, many Asian city governments are increasingly applying private sector management practices to public governing

processes in an attempt to more effectively solve urban problems (slums, traffic congestion, water shortages, energy shortfalls, environmental pollution). The success of these efforts has been mixed, as governments continue to struggle with challenges related to funding, human resource capacity, and issues of public trust. In China, technology and innovation are controlled by the government. The urban transformation has been unbelievable. While there are many successes, the system sometimes causes problems related to quality of effort (e.g., high speed rail and other infrastructure developments). In the United States, the current governance structure presents enormous challenges to planners, who are expected to serve as public sector consultants, collaborating with government to manage metropolitan areas. Some think that the American Planning Association should be renamed the American Process Association. Democratic principles affect the ability to get things done quickly or at all. This is the conundrum faced by the planning community.

While municipalities can potentially benefit from decentralized governance both financially and authoritatively, independence from centrally issued funds must be supported by an increase in local expertise in financial matters. Creative financial solutions are needed, including privatization and land financing, to meet local needs for funds.

City leaders also face the challenge of building trust among elected and appointed officials within the government structure, where improved communication and collaboration systems could foster useful exchanges between civil servants and elected officials. In addition, the growing emphasis on governance and accountability requires municipalities to find better, more effective ways to reach out to the broadest number of stakeholders and promote participation in government decision making.

Key Points

Governance has undergone a paradigm shift from traditional public administration to a new public management approach that incorporates "mission-oriented" principles of private management that focus on the scale of services, incentives, and accountability.

It is important to empower civil servants to be visionaries and innovators, not just competent bureaucrats.

Creative financing for urban services and infrastructure projects is a vital consideration for the future. Cost recovery and land-based financing are two areas where cities should pay particular attention.

Current university planning school curricula, which focuses heavily on the technical aspects of comprehensive planning, needs to include a stronger emphasis on the human dimensions of land use, infrastructure, and service delivery plans and policies.

Civil Society's Increased Role in Governance

Can nongovernmental organizations solve problems without the support of government?

Should governments mandate the inclusion of grassroots organizations, women's groups, the urban poor, and other disadvantaged sectors in city councils and other formal decision making structures?

Does civil society have more clout in Asia than in North America?

With increased public participation in governance a growing trend among civil society organizations, there is much debate over the proper role that these organizations should play. Some organizations are seen as extensions of the government and are involved in providing public services. This role can be tricky, particularly in regard to issues of accountability since the organization leaders and other members are not elected by the public. Another concern is the often intense competition between some civil society organizations operating in a particular location. A robust civil society includes numerous cultural and religious clubs, environmental and community organizations, and support groups, each with their own goals and priorities. Civil society cannot take on the role of government. How can a nongovernmental organization resolve the problems of three million people? Its role is to serve as facilitator and advisor, convincing the government to provide the services needed.

Municipalities need to find better, more effective ways to **reach out to the broadest number of stakeholders and promote participation** in government decision making

It is interesting to note that while many American cities tend to rely on more formal government structures, civil society organizations have progressively become more active in cities in Asia. While public outreach and participation of civil society groups in government planning and decision-making activities are basically seen as a good thing and welcomed by most municipalities, they can slow down the governance process. The more groups and individuals involved, the less efficient the process. This can be frustrating for the government as well as for the public, especially when gathering/managing large amounts of input and competing interests. It is vitally important that effective lines of communication are established and kept open.

The Internet, social media platforms, mobile phone feedback applications, and the media are increasingly being used by civil society groups to foster public participation in governance issues. These methods can have both positive and negative effects on participation, and can either be opportunities or barriers. One concern is the public's overall ability to access the Internet and/or mobile phone services (financial/technical capacities). The "double-edged sword" aspect of using media for public participation in governance is also a concern. While the use of media sources can help generate support for a new program, it can also be very selective, highlighting the more controversial topics (extreme views, scandals) in order to boost sales or ratings and create a sense of urgency. Another example is the use of the Internet in China, where "troublemakers" are often targeted and controlled by the government.

Key Points

Civil society cannot take on the role of government. Its job is to advise and facilitate.

A balance must be maintained between the increasingly widespread use of information technology in urban governance and management and the preservation of privacy.

Social media and mobile phone applications offer exciting ways to expand citizen participation in governance. Dedicated funding is needed to support expanded use by women and the urban poor.

Considering Scale in Governance

Should the preferred focus for governance be on efficiency or incorporating more input?

What mechanisms could be employed to encourage more collaboration between large cities and small- to mid-size cities?

The scale of a city is important when considering improved governance and management objectives. Fostering improved practices in megacities, for instance, presents great challenges due to their huge populations and sprawling nature and the issues that arise over regional and local boundaries and politics. Some Asian cities have made significant strides in the use of new comprehensive planning approaches, infrastructure strategies, and area-wide jurisdictions for delivering selected urban services that have proved quite effective in managing large urban areas. They have been less successful, however, in achieving democratic citizen participation and ensuring that the voices of the urban poor and other marginalized groups are heard and considered in the formulation, adoption, and implementation of urban policies and programs.

According to the United Nations, small and mid-size cities are the fastest growing urban places in Asia. These cities must compete for investment with larger, better-equipped cities. In order to live up to their development potential and become economically sustainable, the smaller cities must address key governance and management issues resulting from limited resources, finances, and expertise.

SESSION VI
Innovations in Applied Technologies

While presenters for this session were not asked to submit discussion papers, they did prepare brief presentations on applied technologies that are currently being utilized, refined, and/or developed and that can assist in the acceleration of knowledge transfer in the urban arena. The summary of the dialogue below includes the comments made by the presenters and the questions raised, comments offered, and key points identified by the participants.

Digital Infrastructure, Knowledge Transfer, and Smart City Solutions

Presented by

Dr. Colin Harrison, *distinguished engineer, Corporate Strategy Team for Smarter Cities, IBM Integrated Technology Delivery Division, Armonk, New York, USA*

Information technology is about knowledge sharing and learning. **It is the process of gathering information and using it to produce actionable knowledge**

Why are there are so few examples of cities pushing the boundaries of what is possible with information technology?

What is needed in order to use information to the best of our ability?

What kind of expertise do we need? What kind of behavioral changes are required?

Does the world become flatter or rounder with expanded access to information?

Solutions for sustainable cities must address the intersection of urbanization, globalization, and climate change. Social scientists, physical scientists, and other professionals from around the world are grappling with these concerns from their own disciplines/perspectives using a wide variety of data sets. Information technology helps them to widely communicate their research, findings, and new ideas. The exchange of this knowledge is vital.

Information technology is a powerful, fast-changing, transformative agent within business, education, and governance. It has evolved over the past decades, with exponential growth in the amount of data available and in the strength of computing capabilities. Data management emerged in the 1920s and 1930s and accelerated during World War II with supply chains being of the

utmost importance. Later in the 1960s and 1970s, the expansion of computing capabilities allowed for more data collection and management of the supply chain. Efficiency in supply chains is critically important at every scale, from local to city-wide, regional, national, and global levels.

The role of information technology continues to develop in order to keep pace with the rapid changes in the ways that private companies manage their businesses. There is a common trend toward decentralized decision making in the private sector, for example, and business management hierarchies are being compressed and streamlined.

Such streamlining could be applied to city management, such as incorporating logistics into city planning. There is a tendency, however, for elected officials to control information and decision making; therefore, such a change in the public sector would be difficult and require clear standards that are set and followed. Since the amount of information available through the use of information technology has grown in the past decades, there are many complex processes that are just too complicated for government agencies to deal with. There is a need to at least have some capacity within government to manage outsourcing, if nothing else.

Transforming Knowledge into Action

Knowledge transfer shouldn't be visualized as a line, but rather as a loop that links global knowledge to local action. Information is only useful if it can be accessed, understood, and acted upon. Actionable information is the most difficult thing to generate, and only with that can you create change. For example, information critical to the improved performance of local government can be very useful to a wider range of policymakers and academics if it is collected and communicated within appropriate contextual frameworks (local to global). The sharing of global trends and detailed information also needs to be presented in a way that shows applicability to local situations (global to local).

Knowledge transfer should be visualized as a continuing loop that links global knowledge and local action

There are many methods available to transform knowledge into action. Some organizations such as the World Urban Campaign, Asia-Pacific Economic Cooperation, and UN-Habitat have all successfully incorporated electronic databases for knowledge exchange. It should be pointed out, however, that there must be a human element, an ongoing dialogue, that accompanies the back and forth of data transfer. Peer-to-peer interactions are important.

There is a lot of pure science happening in the area of urban modeling. With information technology, these models can be informed with useful, real-time data. For example, computer models can predict rainfall on the land, which can help to predict where the flooding will happen. This data can then be used to mitigate the impacts of probable future disasters.

There are some cutting-edge technology solutions for businesses and governments. Civil society and governments could, but don't often, use the same technology. One example where the two sectors intersect involves a system created at the University of Toronto to enable social activists to know who is talking about

their issue. The system was purchased by a private public relations firm and is now being used to track dialogue about key topics, including when, who, and what is being said. Another example is a program developed by Cisco to provide governments with information about where potential terrorists and criminals might be located. This system is being used by a number of Middle Eastern countries.

The use of information technology can greatly improve a city's performance. In Honolulu, such technology has enhanced the city's emergency response capabilities through an application for mobile phones that maps the location of defibrillators and encourages people who have been trained how to use them to install the application on their phones. If an emergency call comes in with someone having a heart attack, an application subscriber in the vicinity is alerted to provide assistance.

Cooperation

Sharing information and using it is not a matter of imitation but of cooperation. It is important to first build relationships, after which the relationship can go through the process of change. A collaborative mode is by far the most efficient way to approach a challenge. The question is whether government professionals have the tools they need to adopt collaborative methods and the empowerment to employ them. In cities, there is very little cooperation and information sharing between departments. This is not the case for companies like Toyota where sales and production, for instance, are linked. Being cooperative will be a part of professionalizing the customer service aspects of government.

Competitiveness

Private companies are aware of their interdependencies within their supply chains. In contrast, cities have not needed to have the same discipline as companies in this regard. There is a sense that the city is independent and can make its own rules. Logistics and communication can help with work, but this involves acknowledging the city's role within a larger context. Assessing the logistical and communicative advantages of cities can help them become more competitive. Increased demand for information can strengthen a city's role. Cities willing to publish data will be far ahead when competing for investment from private companies. For example, Chinese cities must compete to be the home of a certain industry and therefore are on the lookout for ways to be more competitive.

Key Points

The term "knowledge production," rather than "knowledge transfer," more accurately describes the process of creating actionable knowledge.

Electronic databases can certainly be used to exchange knowledge, but human interactions must accompany the back and forth of data transfer in order to put knowledge into action.

A Satellite View of Urbanization: Remote Sensing, Climate Change, and Food Security

Presented by

Dr. Marc Imhoff, *Terra project scientist, National Aeronautics and Space Administration (NASA) Hydrospheric Biospheric Sciences Lab, Goddard Space Flight Center, Greenland, Maryland, USA*

Can the earth keep up with human consumption patterns?

While NASA does not have a section dedicated to studying urbanization, its satellite technology has enabled us to see our world at the planetary scale and study the earth from a different perspective. Since 1960, when the first picture of Earth was taken from space, peoples' view of the world has been transformed. We can see where human activities are taking place and how the climate is changing. Satellite technology allows us to chart the transformations which have changed the face of the earth, locate resources, and examine the role and future of agriculture at the planetary scale.

Since 1960, **when the first picture of Earth was taken from space, peoples' view of the world has been transformed**. We can see where human activities are taking place and how the climate is changing

NASA's Earth Observing System and other satellite data systems are useful and free for anybody to access. Many types of information are available in an extensive library: forest fires, carbon concentrations, land, ocean, sea ice, clouds, urban lights, and topography. Scientists, when free from political constraints, can encounter new data and alter their opinions if the evidence suggests a new theory. Analyzing present conditions with no predictions in mind may help to face new data with an open mind.

One of the world's greatest transformations has happened over the last 10,000 years. Nature on the face of the planet is now dominated by agriculture. Only some areas around the equator (the Congo and the Amazon) have nature that has not been changed anthropogenically. Only a small percentage of the world's surface is urban, but this represents the end result of many changes in the earth's surface, beginning with agriculture and domesticated grazing animals, and progressing through deforestation for heating and metal smelting.

Today, agricultural production is measured by a half a hectare of land per capita. By 2050, that measurement is expected to decrease to only one-third of a hectare per capita. Given the demands for increased nutritional output with an increased population, organic farming will not do. There must be intensive agriculture to meet the need. Agriculture will also move because of temperature changes. A lot of crops will move north. In addition, the demand for animal protein is growing in developing nations. This trend will affect the crops grown. Similarly, the biofuel industry in the United States complicates the agriculture industry.

Can the earth keep up with the human consumption of plant growth? Net primary production is a measure of plant growth per year on the planet, indicating the

earth's plant material output by the carbon taken up and the food produced. It is a useful measure, and with the ability to trace both production and consumption of plant material, it is possible to compare the two measurements for regions to assess their vulnerability.

It doesn't matter if a lot of people are consuming a little or a few people are consuming a lot; the reaction in the biosphere is the same. What matters is the total amount of consumption and whether it outpaces production. Since controlling population is not possible on a large scale, limiting per-capita consumption is the other side of the equation which can be more easily controlled. At the global scale, however, the increase in human activities that produce carbon must be addressed. One way to counteract carbon production is to target forests as a carbon sink, storing and restoring carbon.

Key Points

Satellite technology can chart resources on the face of the earth, and examine the role and future of agriculture at the planetary scale.

In both the United States and China, we are urbanizing our best soils, since fertile land is also the most attractive land to build upon (agriculture versus housing). There are similar tensions between agricultural lands dedicated to growing biofuels to meet energy demands and growing crops to meet food security needs.

INSIGHTS
Sharing and Applying Knowledge of Promising and Innovative Practices

Knowledge exchange can drive more resilient and inclusive urban development

On the last day of the seminar, the participants spent the morning in small thematic groups that reflected the five key areas of urban policy and practice which had been the focus of the seminar dialogue sessions: urban planning and land use, energy and transportation, inclusive economic growth, the urban water cycle, and governance and management.

Each group was asked to reflect on the information and views shared in the sessions and talk a bit more about the process and challenges of sharing and applying knowledge of promising and innovative practices that could drive more resilient and inclusive urban development in the region. In order to frame these discussions, each group was asked to respond to the following four questions:

1. **What are the most effective ways in which you learn about promising and innovative practices?**
2. **How do you validate and contextualize this knowledge?**
3. **Can future cities be built using today's "proven" practices or do we need new ones?**
4. **Name three strategies that you would use to create the conditions necessary to implement innovative and promising practices in your city** *(e.g., how to build political will, communicate urgency, establish coalitions and networks, and/or improve institutional and human resource capacities, etc.)*?

In the afternoon, the participants came together in one large group, and a representative from each small group reported back the answers to the questions. While the thematic groups had reflected on the questions from their own unique, professional backgrounds and perspectives, the responses of the five groups were remarkably similar. Below is a compilation of all the responses.

What are the most effective ways in which you learn about promising and innovative practices?

- Open, effective communication within government agencies
- Demonstration projects with adequate dissemination of information on processes/methodologies
- Conferences, shared presentations, and political or professional forums
- Peer-to-peer, face-to-face interactions
- Exchanges and educational materials focused on common challenges
- Internet resources including online communities, search engines, and database/clearinghouses

How do you validate and contextualize this knowledge?

- Undertake collaborative research that includes developing hypotheses, conducting empirical investigations, replicating specific applications, and taking into account indigenous/local knowledge.
- Conduct systematic, cross-case analysis by using standardized and integrated training concepts and technology.
- Analyze demonstration projects to test proven practices in new contexts.
- Invest/re-invest in rigorous monitoring that includes consistent documentation, training, and capacity building.
- Allow third-party evaluation of projects.
- Receive feedback from numerous diverse sources, including stakeholders and beneficiaries (at least one with a historical understanding of the practice/context).
- Assess risk in addition to a project's costs and benefits.
- Conduct site visits to see a concept in action.
- Incorporate natural replicators into the process to expand a project's scope.
- Build the highest level of political commitment possible to ensure support for a project.
- Encourage more frequent publications to get the story out (articles, popular publications/media).

- Promote adoptive piloting of programs, where a successful program in one location is adopted in other locations over time.

Can future cities be built using today's "proven" practices or do we need new ones?

- It is necessary to take proven practices into consideration, especially when dealing with long-term issues such as infrastructure.
- Innovation is needed in current process-oriented practices.
- New practices are needed that are scale-appropriate at the global, regional, and local levels.
- Data availability and mining can be utilized to create smarter, up-to-date practices.

Name three strategies that you would use to create the conditions necessary to implement innovative and promising practices in your city.

Building More Effective Leadership

- Encourage leaders to become idea champions.
- Accept that political leadership is a variable not a constant.
- Introduce mechanisms for accountability of public officials and urban leaders.
- Examine failures in the bureaucracy in order to advocate for positive change.
- Recognize the importance of women as they drive change in chronic issues in the community.

Creating More Conducive Conditions/Processes

- Define grand challenges in clear terms.
- Engage multisectoral participants in learning exchanges.
- Consider people, time, and place together to achieve the best outcome.
- Adopt new inclusive governance structures that build public participation into the process.
- Create fiscal, social, and political incentives for change.

- Develop an advocacy/communication strategy to frame the issues and build trust.
- Encourage urban leaders to engage all stakeholders in policy development, including civil society, evaluators, and beneficiaries.
- Capture the potential of information technology for communication.
- Rethink data collection methodologies to ensure availability of sufficient and efficient information.

Supporting Effective Plan Implementation

- Promote impact evaluation methods to show causality and translate these stories for practitioners.
- Target research projects that include stakeholders relevant to scale.
- Encourage global stakeholders to advocate for policy/urgency in cross-boundary issues.
- Remove communication barriers at all levels.

ISSUES
Framing a Research and Action Agenda to Promote More Effective Knowledge Exchange

Before the seminar concluded, consensus of the entire participant group was sought on the development of a research and action agenda that:

1. **Fosters knowledge exchange among communities of policymakers, practitioners, and beneficiaries in cities and megaregions throughout the United States and Asia**

2. **Improves governance mechanisms to enable and ensure that specialized knowledge is widely available and more easily applied**

3. **Identifies topics and activities for new research, pilot studies, and programs aimed at removing barriers to knowledge sharing**

Proposed Research

The participants agreed on a proposed research agenda that focuses on the following four key areas:

Knowledge Exchange

- Undertake transdisciplinary research and case study analyses on urbanization activities in the Asia Pacific region that have encouraged local collaboration and information dissemination; develop hypotheses with practitioners within the context of the case studies.

- Perform comparative analyses of governance structures and planning outcomes at multiple levels.

- Formulate people-based rather than place-based anti-poverty and asset-building strategies.

- Study the impact of decentralization policy on spatial urban development.

- Identify relevant secondary data sets for further research to support the creation of periurban development models.
- Examine the role that media and social media have recently played in policymaking at the local and central government levels. How does the social media revolution affect/create leadership? What effect have blogs had on new ideas and new leadership?
- Develop a web-based knowledge cloud and database/platform/tools for person-to-person dialogue and to allow for visualization of good practices.
- Design a global modeling data analysis and observation database for use in urban studies.

The Urban Poor

- Study the impact of the globalization-induced drive toward competitive cities on urban poor populations.
- Develop community-generated research tools and methodologies that gather the views of the urban poor.
- Assess the role of health in global urban policy in different countries.
- Examine the rental housing market for the urban poor.
- Develop indicators to strengthen pro-poor benefits that target multilateral banks and agencies' investments.
- Undertake longitudinal panel studies of the evolving situations of children in informal settlements that focus on health, education, food security, and housing.

Urban Scales

- Study the vertical integration of planning scales, from the community scale up to the regional scale.
- Undertake research on how small towns/cities and mid-size cities are planned and governed related to their attractiveness and economic competitiveness.
- Undertake research on how megaregions are planned and governed related to improved service delivery and resilient energy and transportation applications.
- Identify planning methods that are applicable at the global economic level.

Climate Change and Food Security

- Analyze the relationship between urban and rural communities related to issues of sustainability.
- Consider climate change-related actions in urban planning processes.
- Contextualize and ground the concepts, methods, and tools for participatory action research on urban governance and impacts on resilience to climate change-related issues.
- Study impacts of sea level rise on coastal cities in Asia and examine potential disaster recovery strategies.
- Examine global impacts of cities starting from urbanization impacts on food production.
- Link urban sustainability to food security and actively support dialogue between urban and rural agricultural researchers.

Proposed Programs

The participants also agreed on a proposed action agenda that focuses on the following four key areas:

Knowledge Exchange

- Establish anchor institutions in every country to serve as a local research hub and clearinghouse for knowledge-dissemination resources.
- Create expanded opportunities for effective dialogue and partnerships between urban local government and civil society.
- Develop a global standardized transport database with a special focus on climate change.
- Collaborate with Cities Development Initiative for Asia and its 18 national and regional partners on developing, localizing, and testing capacity development approaches for urban infrastructure investments.

Program Monitoring and Evaluation

- Develop cross-continental benchmarks in cooperation with existing regional and international efforts.
- Systematically document and analyze good urban practices, their applications, and use in cross-city learning.

- Reevaluate established cases of best practices to determine longer-term results.
- Establish collaborative arrangements between Asian city governments and nongovernmental organizations to evaluate the role of civil society in urban governance and management.
- Establish partnerships with interested government institutions and other external agencies in monitoring and evaluating promising new practices.
- Influence multilateral and bilateral partnerships to finance and disseminate results of impact evaluation to help inform better program design.
- Evaluate integrated urban water management activities and replicate/expand wherever applicable.

Training

- Develop an interactive, dynamic online training program on urbanization, globalization, and climate change that links a worldwide network of academics and practitioners.
- Create a professionalized cadre of local government officials responsible for urban sector reform by working with training institutions in the region that have well-established programs offering tested pedagogical designs and curricula.
- Create city-to-city study tours for business, government, and nongovernmental organizations that showcase successful urban development.
- Initiate more regional exchange programs for graduate students in urban planning and related disciplines.

Cooperation

- Facilitate accelerated peer-to-peer learning and action by bringing together selected individuals/groups from government, business, and civil society who have implemented successful practices together with those who have the potential to replicate and adapt such programs.
- Promote networking of civil servants in local government departments with their counterparts in state and regional agencies.
- Improve interministerial dialogue in areas such as health and education, water and sanitation, and agriculture and industry.

PRE-SEMINAR QUESTIONNAIRE
Participant Responses

Participants were asked to respond to three core theme questions on sustainable urban development and **knowledge transfer of best practices**

Several weeks prior to the seminar, the East-West Center and the Penn Institute for Urban Research asked all invited participants via email to respond to three core theme questions that addressed barriers, opportunities, and innovative practices related to knowledge transfer activities within their respective professions and/or global-to-local contexts. The participants were told that their responses would be compiled, unedited, and informally shared at the seminar. This request was meant simply to offer some individual views to enliven the conversation around how everyone might work together to better identify and disseminate innovative practices and transfer knowledge across cities.

Surprisingly, 49 of the 51 participants took the time to prepare thoughtful answers to each of the questions. The variety of perspectives gleaned from the responses clearly reflected the multisectoral and cross-disciplinary nature of the participants, who came from more than 30 different cities throughout the United States, Asia, and elsewhere and represented a broad array of specialties and professional backgrounds ranging from mayors to climate scientists, and from urban planners to civil-society activists, technology developers, and transportation experts. Many of the participants, however, identified common concerns related to the challenges they face in overcoming barriers to transferring knowledge that offers promising and even proven solutions to urban problems.

Core Theme Questions

What are the most critical barriers to the identification, dissemination, and implementation of promising practices in your field?

What opportunities have you been able to identify that hold promise for overcoming these barriers to knowledge transfer?

What is the most important innovation that has been implemented in your city or area of expertise in the past five years? Do you see this as an example of the successful dissemination of "global knowledge" or as the product of "local" creativity?

Selected responses to each question appear below. All responses are unedited. The answers to the first two questions have been generally grouped in several topic areas for presentation in this report.

Participant Responses

What are the most critical barriers to knowledge transfer?

Governance

The most critical barriers are both institutional and ideological. Not only does the system lack proper incentives to identify what works, it discourages the sharing of information about best practices that have been recognized. Unlike in the marketplace, where the bottom line overcomes such barriers, governments do not have the alignment of incentives necessary to improve the social bottom line. Multiple constituencies have different interests and obligations. The push to adopt an innovation that would bring long-term social benefit to the majority may cause a political struggle for power beyond the useful struggle for better ideas. Gridlock often is the result, as the cost of most tradeoffs is too high to garner the support needed to enact the required changes.

The historical independence of cities eschews close integration of operations at the national or global levels, resulting in the proliferation of local, ad hoc approaches to planning, operation, and management processes. Local governments' lack of strongly standardized professional practices, like those adopted by commercial enterprises, has the incidental effect of defeating attempts to rationalize, consolidate, and automate.

Decentralization policies have created unequal allocation of authority and power between central and local governments and have left many cities with limited ability to implement best practices. While local governments may be entrusted with key responsibilities such as public safety and traffic management, they often lack the delegated authority to collect revenues to improve services. In addition, they are forced to contend with multiple government bodies with overlapping powers and little coordination.

Implementing best practice is by far the toughest barrier to progress in urban management. The rate of successful "take-up" or replication is relatively slow. The major obstacle to implementation is often less a lack of knowledge or of finance than it is a lack of political commitment, "staying power," vision, and leadership.

A lack of transparency and deficit of trust exists between many city governments and their civil-society and private-sector stakeholder communities. In some instances, there is inadequate understanding of the phenomenon of "graft and corruption" in governance.

Institutions

Institutional roadblocks slow down or prevent the efficient transfer of knowledge about promising practices. In the research community, for example, we do not have the vehicles or incentives to absorb the amount of time demanded

to document and carefully develop cases, instructional manuals, and evaluation protocols required for best practice research. In the government arena, practitioners, and especially elected officials, need real-time information and data to help inform their decision making and strengthen the political will to undertake innovation.

Cities are more often analyzed as individual functions and sectors rather than holistically. We need to move from a fragmented institutional landscape to a more integrated one (from subsystem optimization to system optimization). This is very difficult due to existing institutional inertia and strong power bases. Although there is great intellectual discourse in regard to this problem, very little has happened on the ground.

In many instances, city governments conceptualize problems legalistically instead of rethinking, both horizontally and vertically, the entire social policy thrust of a new, proposed program or activity.

Professionals are unable to apply lessons learned due to bureaucratic organizational environments that do not value new ideas, have limited institutional memory to learn from past practices, or are resistant to change and unwilling to give up deeply entrenched practices.

Deep-seated community apathy very often sets in and takes root in the face of failed reform efforts and prevents stakeholders from giving innovations the benefit of the doubt.

Gatekeepers in the media and the corridors of power, when armed with an agenda not aligned with an innovation, can prevent the scaling up of promising practices. In some cases, the conventional media may choose not to cover "unconventional" innovations based on its determination of public interest.

The degree to which the international competitiveness game has changed has not been fully comprehended by public leadership or the general public. Global competitiveness by its nature focuses on gaining an economic edge. City leaders and policymakers often balk at sharing successful ideas, and jurisdictions like municipalities and states protect their data and methodologies for fear of giving away competitive secrets.

Communication

Nongovernmental organizations rarely have clear communication strategies for sharing information about successful practices. As a result, they expend their time, budgets, and energies on reporting only to donors, seeking funds, or positively representing their work on websites that are often nothing more than electronic brochures. They rarely seek to externally influence public opinion and policymakers.

In today's world of global communication, information overload hinders efforts to discriminate good from bad, accurate from speculative, and fact from opinion—making it difficult to identify promising practices. The right questions are not being asked.

Evidence

City leaders and policymakers are frequently faced with a lack of evidence-based data they need to plan and implement effective, demand-driven programs. In reality, their decisions rely instead on subjective evidence and short-term demand rather than on long-term study. In addition, where solid research data do exist, the findings are frequently presented in a language and format that laypeople cannot understand and/or utilize. For example, empirical evidence regarding the efficiency of economic development approaches (i.e., relocation expenses, low-cost financing, and tax credits) is rarely available in an accessible way.

Identifying what precisely is the most relevant practice or experience to fit a particular context is a challenging task. It requires having fairly substantial contextual information about both the "demand" side (i.e., a list of applicable alternatives) and the "supply" side (what others have done successfully, how, and when). It also requires being able to diagnose the nature of the problem for which alternative practice is sought and an understanding of the state of readiness needed to adopt or adapt the given practice.

There is a lot of anecdotal evidence measuring the impact of good practice in the urban development area, including self-promotion pieces circulated by cities, but they are often not backed up by a rigorous monitoring and evaluation framework, including validation by a third party with credible evidence about what practices really worked and why.

What opportunities/innovations hold promise to overcoming these barriers?

Collaboration

Seminars and forums that bring experts together across areas of specialization do much to encourage a needed comprehensive approach to addressing 21st century urbanism. Face-to-face dialogue is an important part of knowledge transfer, especially in forming urban development policy. For example, on the issue of food security, health and agriculture experts need to be talking to the urban planners, who need to be exchanging ideas with the business sector, who need to be speaking with engineers, who should be consulting with veterinarians, who need to be in discussions with public and management administrators, and so forth.

Professional associations, academic conferences, think tanks, foundations, and other civic groups offer opportunities to air new ideas and possible solutions. The assembly of information necessary to change beliefs and the mobilization of constituencies to support new practices can occur through such organizations. Their success depends on their ability to locate the necessary capital and to organize a unified front. Fortunately, technology has lowered the cost and simplified the logistics of mass marketing and mobilization, making it easier to disseminate information and rally support.

Linking public and private sector peer exchanges into a framework that has an institutional replicator built into the process can lead to more successful knowledge transfer. This dissemination may take place either through a professional association with knowledge dissemination as a service to its members, through a business which sees a profit motive in transferring broader knowledge of how cities have applied its technology or software, or through a government competitive grant program or training institute motivated by serving the public good.

Cooperative projects between resource and beneficiary cities have been instrumental in successful knowledge transfer and the search for solutions. These projects may be sponsored by international and/or regional city associations to assist local governments in their efforts to obtain practical information and know-how. Some associations offer comprehensive strategies that combine training, development of action plans, and implementation of demonstration projects. Nongovernmental organizations and research institutions are often also involved in this process.

City-to-City Learning

City-to-city visits offer excellent opportunities for decision makers and practitioners to observe strategies and tactics and learn about new ideas and practices from their colleagues and peers. Often these exchanges lead to other active knowledge-sharing arrangements, such as the cross-continental development of standardized metrics for use in benchmarking activities. For example, knowledge sharing and replication of "high concept" improvements to city infrastructure, such as bus rapid transit systems and quality public space projects, can be greatly accelerated when mayors and other key city leaders experience the new innovations through on-site, guided technical visits.

Technology

The rise of social media platforms to communicate key messages and build consensus has dramatically changed the way knowledge is disseminated. The amount of information available is overwhelming, however, and misinformation can rapidly proliferate. Decision-making institutions, more than ever, need to be deliberative and patient in making wise choices from the cacophony of information.

Hand-held devices, such as smart phones, and large-scale data storage with cloud computing have the potential to change life in both the developed and developing worlds. New technologies and applications can relay images and production data from distant sites, provide real-time analyses, and introduce new ideas relatively inexpensively.

Education and Training

Improved education and training of community and regional planners can have a major impact on how information and new ideas are developed, communicated, and applied. The current curricula of planning schools need to be evaluated and adjusted to better align innovative urban development philosophies with professional/technical approaches and eliminate the artificial separation between theory and practice.

Practical training seminars and workshops for professional staff members in local governments can yield important results in efforts to accelerate knowledge transfer. Elected officials come and go, but professional staff members stay, so expanded investments in their technical education and training are key.

Change

Facilitating the global search for knowledge and implementation of new ideas cannot be accomplished without undertaking change management strategies that raise awareness/exposure to good alternative practices, strengthen stakeholder capacity to demand greater accountability and wider access to information, and improve the efficiency of policy instruments and the effectiveness of organizational arrangements.

Framing social science research in the language of growth, public finance, and economic development is important if scholars/researchers are to effectively communicate their ideas and findings to government authorities. Identifying tradeoffs as a key component of research is equally important to influencing public policy. It is also important to publish research findings in local language journals to broaden the reach of knowledge dissemination to urban areas in the developing countries.

Strengthening the voice of the urban poor to negotiate with government officials and demand accountability can be most effectively accomplished by building their capacity to manage money and information.

Rewarding innovation, through competition platforms or crowd-source solutions, is a strategy that can identify good practices and introduce fresh ideas.

What recent, important innovations have been implemented?

Many innovations addressing urban problems have emerged in the past five years. They are products of both global and local knowledge and creativity whose determining success factors include strong executive leadership and vision supplemented by the larger political will of the populace to adapt to suggested changes. They also suggest a recognition of the kinds of cross or multidisciplinary approaches that are needed to succeed. The two following examples of innovative practices may be a result of global knowledge, but their effective implementation took a great deal of local creativity.

A **slum neighborhood of Medellin, Columbia, used ski lifts to solve a local transportation problem**. The project ultimately addressed several community concerns, however, including providing basic public transport services, reducing resident isolation, and creating public spaces around transport stations, including a library.

An innovative sustainability plan for New York City was adopted to guide public investment and policies related to energy consumption and the provision of public services and amenities. The plan ended up fostering a supportive

environment for addressing broader concerns over the city's demographic and economic growth.

Many of the participants provided examples of innovative practices in their own cities:

San Diego, California, USA, adopted a new process to build consensus on the development of a sustainable regional plan. The process involved the creation of a nesting system to coordinate local jurisdictional plans—which have land use authority—with the regional plan. The resulting plan produced a large habitat, open space, and an agricultural lands preservation system, with future growth concentrated within identified, compact, walkable mixed-use places served by a regional transit network. It represents one of the more successful downtown reinventions and use of global knowledge. Over the next two generations, the region will serve as an example of a successful transformation of an auto-oriented, 20th century sprawling region into a model of sustainability in the 21st century.

Selected cities in Indonesia (Bandar Lampung, Semarang)**, India** (Gorakhpur, Indore, Surat)**, Thailand** (Hat Yai, Chiang Rai)**, and Vietnam** (Da Nang, Quy Nhon, Can Tho) **participated in an innovative shared-learning process to prepare and implement climate-change resilience strategies and action plans.** This new approach to planning, designed to facilitate enhanced participation of key stakeholders through capacity building, is very different from the conventional sectoral planning practices employed in the past. The process promoted co-production of knowledge as well as practices related to climate resilience. New institutional arrangements were established to ensure both top-down and bottom-up planning. The approach has been applied and up-scaled in Vietnam and contributed to the implementation of the country's national target program in response to climate change.

The Guangzhou, China, bus rapid transit system represents the most important innovation implemented in the city in the area of urban transport. The planning and design of the system was developed through a partnership between the Guangzhou Municipal Engineering Design and Research Institute and the Institute for Transportation and Development Policy. It is the first "metro replacement" level bus rapid transit system outside of South America, and the first high-capacity "direct-service" system in the world, with more than triple the peak passenger flows of any other system in Asia and significantly higher flows than most metro systems in the world. Since its opening in 2010, the system has grown to carry more passengers than all of the city's five metro lines, carrying 810,000 daily passengers and averaging one bus arriving/leaving every 10 seconds into the city center during the morning peak hour. The Guangzhou bus rapid transit system and integrated bike sharing system won the 2011 Sustainable Transport Award.

Newark, New Jersey, USA, established a tax credit program that incentivizes development in a way that gives priority to smart growth, including urban

investment surrounding transit hubs, and ensures that state resources are channeled where there are substantial existing infrastructure investments. This pragmatic strategy has fueled many of the development projects that are underway in the city, from the first new downtown hotel in almost 40 years to the headquarters for Panasonic Corporation of North America, which is building the city's first new office tower in almost 20 years.

Singapore has become a world leader in innovative urban water systems. The city state built a dam across a major channel to keep out seawater and form the first fresh water reservoir in the city center. It serves as water catchment, flood control, and recreation destination for citizens and tourists alike. In response to a critical shortage of potable water, the Singaporean government supported a public-private partnership to create NEWater, a high-grade reclaimed water that is purified using advanced membrane technologies. NEWater is ultra-clean and safe to drink. It is mostly used for industrial purposes, but a small percentage is also blended with reservoir water for domestic use.

Karachi, Pakistan, one of the largest megacities in the world, established several innovative public services, including the first ever citywide video surveillance system, managed by a high-tech command and control center, to assist local police and government traffic safety personnel to deal with security issues. The city also created a computerized complaint center to receive and process calls from citizens regarding problems with water, sewerage, streetlights, etc. The system, linked in real time to city departments and agencies, including the mayor's office, tracks the resolution of complaints and provides information on local government accountability. In addition, the city's "I Own Karachi" campaign energized the public from all walks of life to participate in volunteer projects to improve their city. Over 28,000 people took part in activities that ranged from painting buildings, cleaning roadways, and planting trees, to managing traffic flow on city streets.

Philadelphia, Pennsylvania, USA, has adopted a new approach in its storm water billing system for commercial properties. Instead of basing the fee on water usage, it now assesses a fee based on the size of the impervious surface of the property. This fee structure creates an incentive for commercial property owners to decrease the surface coverage of their property, which in turn reduces the amount of storm water that needs to be treated. The city's water department plans to replace at least one-third of such surfaces with green storm water infrastructure under its "Green City, Clean Waters" initiative. If successful, the initiative will reduce the storm water and sewage overflows into the region's waterways during rain events and eliminate the need to build additional grey water infrastructure, saving billions of taxpayer dollars. This innovative approach appears to be "catching on," and already over 50 cities in the United States are instituting storm water user fees.

In Pune, India, the municipal corporation partnered with a private sector organization and several local nongovernmental organizations to mobilize thousands of volunteers to "map the urban slum" by collecting socioeconomic data from individual households on immunizations, health insurance, clinics,

services, and poverty and updating the information annually. The project then used GIS technology and applications to geo-reference the data. Involving slum residents in the mapping process empowers them to become active and engaged in the city's planning and budgeting processes. The mapping also enables municipalities to make better, more informed decisions about the services needed.

The Seoul, Korea, metropolitan region has made great strides in its efforts to move away from an automobile-oriented society. Through innovative policies and projects that focus on green growth convergence, the government has greatly improved public transport services and pedestrian space. One spectacular project was the demolition of an urban elevated highway that ran through the center of Seoul, uncovering and restoring a natural waterway and creating a pedestrian plaza and walkway. This project has become a key symbol of creative, sustainable urban development.

Oklahoma City, Oklahoma, USA, took advantage of innovative marketing and financing programs to make a sweeping change in citizen lifestyle behaviors and create a community committed to healthier practices. To draw attention to the growing problem of obesity and its related costs, the mayor put the entire city on a diet. He used social media and web-based tools to track community weight loss to reach a goal of one million pounds. To date, more than 45,000 citizens have gone on the diet and have lost a combined total of 865,000 pounds. More importantly, the mayor leveraged the increased awareness created by the campaign to guide public policy and adopt a multimillion dollar capital improvement program to redesign and rebuild every street and sidewalk in the downtown core to make the city more pedestrian friendly, and build parks and senior wellness centers.

Naga City, Philippines, adopted an "empowerment ordinance" to give civil society and nongovernmental organizations a bigger, more concrete, and more meaningful role in governing the city. Participatory governance was institutionalized with the establishment of the Naga City People's Council, despite stiff resistance from prominent members of the city council, who were concerned that they were giving up too much power and authority in local policymaking to unelected entities. The success of the effort was due primarily to a strong leader who built a broad-based reform constituency that was willing to forgo the status quo and work to ensure that everyone interested could have a voice in the city's decision-making process.

Shanghai, China, prepared for the World EXPO 2010 by greatly improving the city's urban space. The most significant strategic change was the transformation of the city into a multicentric structure, with a shift in emphasis from the central city to the surrounding metropolitan area. The city underwent a "reurbanization," thinking global and local, acting global and local. The change impacted urban planning and development priorities and created a shift from the protection of a single historical building to the wholesale conservation of historical areas; from ignoring the urban environment to stressing urban environmental quality and paying more attention to liveability issues.

India's National Urban Renewal Mission has shifted national economic development policy emphasis from a rural bias to acknowledgment of the importance of large cities. The program provides cities with central government funding, matched by state and local funds, to implement priority projects such as housing improvement and civic services for the poor. The projects are identified by local government in consultation with stakeholder groups. The levers for funding include key financial and institutional reform and preparation of a city development plan. The program has increased the capacity of local governments to fulfill their constitutional mandates of planning, poverty alleviation, and service delivery and legitimizes participatory and consultative planning strategies.

Raleigh, North Carolina, USA, introduced a creative place-making, land management practice that used the value of land and public capital to leverage private investment. The result was the creation of great places throughout the city. Processes involved in this effort included the establishment of a land capacity analysis system to manage land use, transportation, and urban form; development of "blueprints" and "greenprints" as elements of the comprehensive plan, such as converting the city's recreational greenway system into a transportation network; and implementation of a context-based zoning code to offer better predictability to residents and the development community.

Acknowledgments

Many individuals and organizations must be acknowledged for their contributions to the Changing Cities seminar—most importantly the co-convener, the Penn Institute for Urban Research (Penn IUR). The partnership and close working relationship that has developed between the East-West Center and Penn IUR has enhanced the Center's Asia-Pacific-U.S. Urban Dialogue with expanded expertise and resources, not to mention new friendships and professional collaborations "east to west" across the United States (Pennsylvania to Hawai'i), as well as throughout the urbanizing world. Many thanks to Penn IUR co-directors *Eugenie Birch* and *Susan Wachter*, and the Penn IUR staff, for all that they contributed to making the seminar a success. I also gratefully acknowledge The Rockefeller Foundation for its generous contribution toward the funding of the seminar.

I especially want to recognize the guidance provided from the members of the Center's steadfast "urban brain trust," who have been intimately involved in the development of all three seminars organized to date: *Tim Campbell*, chairman, Urban Age Institute and former director, Urban Development Division, The World Bank; *Aprodicio Laquian*, professor emeritus, Center for Human Settlements, School of Community and Regional Planning, University of British Columbia; and *Allen Clark*, senior fellow, East-West Center Research Program. I thank them most sincerely for their continued encouragement and assistance, and their energy, commitment, and time. Thanks also to East-West Seminars Director *Raymond Burghardt* for his continued support of the urban dialogue program and related activities.

A special thank you to *Alexander Keating*, Penn IUR project manager for Global Initiatives, for his invaluable assistance in organizing the seminar, particularly his work with the authors of the commissioned discussion papers and compiling participant responses to the pre-seminar questionnaire. His unwavering attention to detail, patience, and flexibility in addressing participant and format changes were greatly appreciated.

Thank you to the authors of the commissioned papers—busy professionals all—who volunteered to share their views and expertise and provide seminar participants with stimulating introductions to each session topic. The authors are: *Banashree Banerjee*, urban planner and independent consultant, Delhi, India; *Eugenie Birch and Susan Wachter,* co-directors, Penn IUR, University of Pennsylvania; *Jefferson Fox*, senior fellow, East-West Center Research Program,

and *James Spencer*, director, Globalization Research Center, University of Hawai'i at Mānoa; *Seetharam Kallidaikurichi*, director, Institute of Water Policy, Lee Kuan Yew School of Public Policy, National University of Singapore; *Aprodicio Laquian*, professor emeritus, Center for Human Settlements, School of Community and Regional Planning, University of British Columbia; *Catherine Ross*, director, Center for Quality Growth and Regional Development, College of Architecture, Georgia Institute of Technology; and *Kalanithy Vairavamoorthy*, director, Patel School of Global Sustainability, University of South Florida.

I would also like to acknowledge the two experts who prepared excellent presentations on applied technologies: *Colin Harrison*, distinguished engineer, Corporate Strategy Team for Smarter Cities, IBM Integrated Technology Delivery Division; and *Marc Imhoff*, Terra project scientist, National Aeronautics and Space Administration Hydrospheric Biospheric Sciences Laboratory, Goddard Space Flight Center.

Session facilitators had the formidable job of providing context to the sessions, moderating wide-ranging discussions, and summarizing key points. I thank them for expertly creating a more cohesive structure for the seminar. Session facilitators were: *Eugenie Birch, Allen Clark, Aprodicio Laquian, Susan Wachter,* and *Shabbir Cheema*, senior fellow and director, Asia Pacific Governance and Democracy Initiative, East-West Center Research Program.

I greatly appreciate the extraordinary efforts of *Rebecka Arbin*, East-West Center graduate degree fellow at the University of Hawai'i at Mānoa, Department of Urban and Regional Planning, who not only served as the seminar's lead rapporteur—organizing and managing a slate of fellow volunteer rapporteurs—but later synthesized the discussion notes gathered from her fellow rapporteurs into a draft document. This was no easy task, and I cannot thank her enough for her diligence, exceptional hard work, and perseverance. She also worked closely with me during the writing and editing of this report.

I extend my sincere appreciation to the expert rapporteurs for generously agreeing to take session notes. From the University of Hawai'i at Mānoa, Department of Urban and Regional Planning: *Daniel Alexander*, graduate student; *Thomas Blair*, graduate student; *Jiwnath Ghimire*, doctoral degree candidate; *Saiful Momen*, doctoral degree candidate; *Hao Nguyen*, doctoral degree candidate; *Keri Robinson*, graduate student; *Jacqueline Kozak Thiel*, East-West Center graduate degree fellow; and *Xiaofeng Kang*, East-West Center graduate degree fellow, University of Hawai'i at Mānoa, Department of Geography. From Group 70 International, a planning and design firm based in Honolulu, Hawai'i: *George Atta*, principal, chief community planner; *Ralph Portmore*, of counsel; and *Stephen Yuen*, principal. From Penn IUR: *Chau Lam*, program coordinator, *Amy Montgomery*, associate director. And from the East-West Center Research Program, *Cameron Lowry*, researcher, Asia Pacific Governance and Democracy Initiative.

It took expert logistical support from a dedicated team of professionals to make this seminar successful. I greatly value the East-West Center's support staff and the significant contributions that they made: *June Kuramoto*, senior program officer, *Cynthia Nakachi*, Research Program secretary, and University of Hawai'i at Mānoa student assistants *Alexandra Hara, Jennifer Lau*, and *Thomas Lee*. I also wish to thank Penn IUR staff who provided much appreciated logistical assistance: *Alexander Keating*, project manager; *Chau Lam*, program coordinator; and *Amy Montgomery*, associate director. In addition, I am most grateful to *Marshal Kingsbury*, manager of the East-West Center's Hawai'i Imin International Conference Center and his staff for all their help.

Finally, many thanks to the East-West Center's Publications Office for their editorial and production assistance in the preparation of this report: *Elisa Johnston*, publications manager, and *Carol Wong*, secretary.

Meril Dobrin Fujiki
Seminars Development Coordinator and
Coordinator, Asia-Pacific-U.S. Urban Dialogue
East-West Seminars Program, East-West Center

Seminar Participants' Biographical Notes

Mr. William ANDERSON
Principal/Vice President, AECOM Planning, Design + Development, San Diego, California, USA

Mr. Anderson has 30 years of experience in urban and regional planning, economic development, and real estate market analysis, of which 24 years have been with AECOM, a global provider of professional technical and management support services. He currently oversees AECOM's Planning, Design + Development practice for the western United States. As director of the City of San Diego's Planning and Community Investment Department from 2006–2011, he was responsible for planning, urban form, economic development, redevelopment, and facilities financing. He directed the update to San Diego's General Plan, which received the nationally prestigious Daniel Burnham Award for Comprehensive Planning from the American Planning Association in 2010; reformed the City's Community Development Block Grant program; established the City's first Tourism Marketing District and two new historic districts; and financed hundreds of units of affordable housing. He is currently on the board of directors of the American Planning Association and co-chairs the "Sustaining Places" sustainable community planning initiative.

Ms. Tamara ARSENAULT
Organizational Learning Advisor, CHF International, Silver Spring, Maryland, USA

Ms. Arsenault has more than 20 years of international development experience, with expertise in municipal management, housing and urban development, program design and monitoring, and evaluation. As organizational learning advisor for CHF, a nonprofit humanitarian assistance and international development organization that works in post-conflict and developing countries, she spearheads efforts to improve program management and document and disseminate best practices. She led the strategy development for the launch of CHF's Knowledge Management and Evaluation Unit to promote quality program design, performance measurement and innovation, and managed investments in water and sanitation projects across five countries in Sub-Saharan Africa. Previously, she worked with the US Agency for International Development in Poland, managing a portfolio of programs to build the capacity of local government associations, reform government procurement systems, and improve municipal service delivery. During this time she developed an appreciation for the complex array of urban development, housing finance, and policy issues faced by developing countries.

Dr. BACH Tan Sinh
Director, Department of Science and Technology Resource Policy and Organization, National Institute for Science and Technology Policy and Strategy Studies, Ministry of Science and Technology, Government of Vietnam, Hanoi, Vietnam

Dr. Bach has more than 20 years of experience working on policy analysis and governance in science, technology, environment, and development in Vietnam. He serves as general secretary of Vietnam's International Human Dimensions Program on Global Environmental Change and is one of the lead authors of the "Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation," sponsored by the Intergovernmental Panel on Climate Change. He was a member of the Review Board of the Millennium Ecosystem Management Program led by the former United Nations Secretary-General Kofi Annan from 2003–2004. Since 2009, he has coordinated scientific research and policy studies for the Asian Cities Climate Change Resilience Network in three cities in Vietnam (Da Nang, Quy Nhon, and Can Tho), supported by The Rockefeller Foundation. He also currently leads several research projects including "Communicating Climate Change Risks for Adaptation in Coastal and Delta Communities in Vietnam 2011–2014," supported by the International Development Research Centre, Canada, and "Communicating Water-related Climate Change Risks to Improve Local Adaptation in the Delta of the Mekong Region 2011–2012," supported by the Climate Change and Development Network.

Dr. Xuemei BAI
Professor of Urban Environment, Fenner School of Environment and Society, Australian National University, Canberra, Australia

Dr. Bai's educational and research background in science and engineering has focused on several frontiers of urban sustainability science, including understanding the structure, function, and processes of urban social ecological systems; the environmental and ecosystem consequences and drivers of urbanization; urban metabolism; the urban energy system and the role of renewable energy; climate change mitigation and the adaptation of cities; innovative practices in urban environmental management; and urban sustainability transition in Asia. She is a member of the science committee of the Human Dimensional Program for Global Environmental Change (2011–present) and an elected board member for the Sustainable Urban Systems Chapter of the International Society of Industrial Ecology (2011–present). She has served on several other international committees, including the US National Academy of Science Study Committee on Electricity from Renewables in collaboration with the Chinese Academy of Sciences (2008–present) and the US National Academies Sustainable Cities Initiative (2005). Previously, she was a senior principal research scientist at the Commonwealth Scientific and Industrial Research Organization (CSIRO) in Canberra, Australia. She was also a research fellow and senior research fellow at the Institute for Global Environmental Strategies in Japan, a visiting urban ecology professor at Yale University School of Forestry and Environmental Studies, and a research scientist at the Japanese Center for International Studies in Ecology.

Ms. Banashree BANERJEE
Urban Planner, New Delhi, India

Ms. Banerjee currently works as an independent consultant and also serves as an associate faculty member at the Institute for Housing and Urban Studies, Erasmus University, in Rotterdam, Netherlands. For the past 30 years, she has focused on inclusive approaches to urban planning and management, particularly related to approaches that make land and housing available to the poor. She has worked in partnership with local governments and civil society organizations in India, Egypt, and Bangladesh on the design, implementation, and institutionalization of participatory planning and monitoring programs at neighborhood and city levels, and has helped put in place city-wide approaches to slum improvement in a number of cities. She has been involved in institutional strengthening and capacity development efforts at the local level. Her other interest is urban land management, and she has served as a panelist at the World Urban Forum 2010 in Rio de Janeiro, as chairperson of the international jury for the UN-Habitat Best Practices Awards in 2008, and as a member of the Global Commission for Legal Empowerment of the Poor in 2007.

Mr. John BERENYI
Co-Founder, Global Urban Fellowship Program and Global Urban Laboratory, New York, New York, USA

Mr. Berenyi has wide expertise in the planning, financing, and implementation of urban and regional infrastructure projects in the United States and around the world. He has over 25 years of experience as a senior investment banker, managing director, and partner at financial institutions and international investment banking firms, and as a consultant to governments, public agencies, corporations, and nonprofit groups. He is currently developing two new initiatives, the Global Urban Fellowship Program and Global Urban Laboratory. For two decades he was the US editor of the journal *Local Finance*, published in three languages by the International Centre for Local Credit in The Hague, Netherlands. He has held a New York City Urban Fellowship, the Loeb Fellowship in Advanced Environmental Studies at Harvard University, the Committee for the Challenges of Modern Society of NATO (Brussels, Belgium) Fellowship awarded to study regional infrastructure projects, and the Rockefeller Foundation International Fellowship to examine the transformation of public policy for economic development.

Dr. Eugenie BIRCH
Co-Founder and Co-Director of the Penn Institute for Urban Research, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Dr. Birch is the Lawrence C. Nussdorf Professor of Urban Research and chair of the Graduate Group of City and Regional Planning at the University of Pennsylvania's School of Design. Through the Penn Institute for Urban Research, she serves as co-editor of the City in the 21st Century series, published by the University of Pennsylvania Press. Her most recent books are: *Global Urbanization* (Penn Press 2011), edited with Susan Wachter; *Women's Health and World Cities*

(Penn Press 2011), edited with Afaf Meleis and Susan Wachter; *Neighborhoods and Life Chances: How Place Matters in Modern America* (Penn Press 2011), edited with Harriet Newberger and Susan Wachter; *Urban and Regional Planning Reader* (Routledge 2009); and *Local Planning, Principles and Practice* (ICMA 2009), edited with Gary Hack, Paul Sedway, and Mitchell Silver. Her articles have appeared in the *Journal of the American Planning Association*, *Journal of Planning Education and Research*, *Journal of Urban History*, *Journal of Planning History*, and *Planning Magazine*. Her current research focuses on evaluating sustainable urban development, a project undertaken with the US Department of Housing and Urban Development, and tracking the rise of downtown housing in US cities. She has held many leadership positions including chair, Department of City and Regional Planning, University of Pennsylvania; chair, Department of Urban Affairs and Planning, Hunter College/CUNY; president, Association of Collegiate Schools of Planning; president, Society of American City and Regional Planning History; president, International Planning History Society; and co-editor, *Journal of the American Planning Association*. She has been a commissioner with the New York City Planning Commission as well as a member of the jury to select the designers of the World Trade Center site.

Mr. Manfred BREITHAUPT
Senior Transport Advisor and Director, Sustainable Urban Transport Project, Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), Eschborn, Germany

Mr. Breithaupt has worked with the German Technical Corporation (GIZ) since 1981 on transportation projects. He is currently the director of the Sustainable Urban Transport Project, which provides technical assistance to developing world cities on urban transport policies (land use planning, demand management, public transportation improvements) by developing informational materials, conducting training programs, and facilitating peer-to-peer exchanges. His experience covers transport planning, transport sector policy and restructuring, commercialization, and institutional development. He has advised governments, transport authorities, and municipalities in over 50 countries. Over the last several years, he has worked in the area of sustainable urban transport (mass transit, bus rapid transit, and non-motorized and pedestrian transport). Mr. Breithaupt is the editor of *Sustainable Transport: A Sourcebook for Policymakers in Developing Cities,* which details international best practices and provides resources for policymakers, planners, and engineers in cities, academia, and regional entities. The sourcebook has been translated into various languages and has its own web presence. He also serves as an assistant professor for transport planning and policy at the Technical University, Munich and Berlin.

Dr. Tung BUI
Director, Pacific Research Institute for Information Systems Management; co-director, Asia-Pacific Economic Cooperation (APEC) Study Center, Shidler College of Business, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA

Dr. Bui holds the distinguished professorship of global business, endowed by the Matson Navigation Company, at the University of Hawai'i at Mānoa. He previously served on the faculty of the United States Naval Postgraduate

School in Monterey, California; New York University; the Universities of Fribourg and Lausanne, Switzerland; the University of Quebec, Montreal, Canada; and the Hong Kong University of Science and Technology. He has published 12 books and over 140 papers. His current research interests focus on effective management of large organizations, electronic commerce, sustainable development, and collaborative technology, including group decision and negotiation support systems. As a Vietnamese-American, Dr. Bui has contributed to promoting US involvement in education and training in Vietnam and is a key architect of the University of Hawai'i Executive MBA program in Hanoi, as well as various other education, training, and research programs in Vietnam. In 2011, he was awarded Vietnam's national medal for his contribution to education in Vietnam.

Dr. Shabbir CHEEMA
Senior Fellow and Director, Asia Pacific Governance and Democracy Initiative, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Cheema directs the Asia Pacific Governance and Democracy Initiative, which focuses on governance and democracy, including civil-society engagement, cross-border governance, electoral and parliamentary processes, transparency and anti-corruption strategies, and civil-service reform. He is contributor and co-editor of a three-volume series Trends and Innovation in Governance (United Nations University Press 2010). Before joining the East-West Center, he spent over 20 years with the United Nations, serving as program director in the Department of Economic and Social Affairs (2001–2007), director of the Governance Division-UN Development Program (1995–2001), and principal adviser of the Urban Management Unit (1990–95). He provided leadership in crafting democratic governance and public administration programs in over 25 countries in Asia, Africa, and the Arab region. He prepared the unit's first policy paper on urbanization and poverty and played a leading role in channeling United Nations funding to improve slums and squatter settlements in cities of the developing countries of Asia, Africa, and Latin America. He has also taught at Universiti Sains Malaysia, University of Hawai'i at Mānoa, and New York University, and was a visiting fellow at Harvard University's Ash Institute for Democratic Governance and Innovation. He often serves as a consultant to The World Bank, Asian Development Bank, United Nations Development Program, United Nations Capital Development Fund, United Nations Department of Economic and Social Affairs, Food and Agriculture Organization, and UN–Habitat.

Dr. Allen CLARK
Senior Fellow, Politics, Governance, and Security Study Area, Research Program, East-West Center, Honolulu, Hawai'i USA

Dr. Clark's current research focuses on disaster management and humanitarian assistance; policy and institutions in support of sustainable national and regional development; and social, cultural, and environmental impacts of large-scale resource development. He joined the East-West Center Resource Systems Institute in 1985. From 2002–2006, he served as executive director/principal investigator of the East-West Center-managed Pacific Disaster Center. Prior to coming to the East-West Center, he worked as a geologist for the US Geological Survey,

undertaking oil, gas, and mineral research and development in all but 11 countries of the world. He founded the Office of Resource Analysis, serving as senior staff coordinator for resource programs in its Office of International Geology. He also founded the International Institute for Resource Development, which provided technical resource assistance to 15 developing nations.

The Honorable Mick CORNETT
Mayor, Oklahoma City, Oklahoma, USA

Mayor Cornett is a business owner and successful journalist in addition to an elected public official. He is executive vice president of Ackerman, McQueen, a marketing, advertising, and public relations firm, and also produces and co-hosts a local public affairs television program called *The Verdict*. He entered politics in 2001, serving on the Oklahoma City Council, and was elected the city's 35th mayor in 2004. He is currently serving his third term in office. Oklahoma City is estimated to be the twelfth fastest-growing large city in the United States and has witnessed an 8 percent growth in population in the past decade. The mayor has pushed for extensive redevelopment of the built environment and economic revival of the city's downtown districts, and is frequently asked to speak to Congress and the White House on behalf of cities across the nation in his capacity as trustee of the US Conference of Mayors. He previously served on the advisory board and as chair of the Urban Economic Policy Committee. He also serves as president of the National Republican Mayors and Local Officials organization. In 2010 he was named "Public Official of the Year" by *Governing Magazine* and placed second, behind the mayor of Mexico City, in the London-based City Mayors Foundation's World Mayor Award.

Ms. Celine d'CRUZ
Global Coordinator, Slum/Shack Dwellers International, Mumbai, India

Ms. d'Cruz became coordinator of Slum/Shack Dwellers International in 1998. She travels extensively within Asia and Africa, and more recently Latin America, helping slum dweller organizations negotiate with state governments for land security, housing finance, and basic amenities. She is dedicated to building the capacity of the urban poor, especially women, to participate fully in local and national government affairs by working closely with a wide range of stakeholders including poor communities, city agencies, government authorities, United Nations bodies, and bilateral groups. She worked with the National Slum Dwellers Federation and Mahila Milan (a federation of women's slum and pavement dweller savings groups) on large grassroots-managed housing construction and upgrading programs. In 2009–2010, she worked with Cities Alliance, affiliated with The World Bank. In 2003–2004, she was a world fellow at Yale University and a visiting fellow in the offices of the International Institute for Environment and Development in London. In 1984, she co-founded the Society for the Promotion of Area Resource Centres (SPARC), a nongovernmental organization that works in more than 70 Indian cities and towns to build the capacity of organizations of the poor.

Dr. Michael DiGREGORIO
Urban Planner, Hanoi, Vietnam

Dr. DiGregorio is a scholar activist and philanthropy professional with recognized experience in developing innovative and effective strategies for positive change through engagement with government institutions, individuals, and concerned and affected communities. He works as a consultant to various groups and organizations on media, urban planning, and climate change issues. As a Ford Foundation program officer in Vietnam from 2002–2009, he oversaw a total of $35 million in grants to Vietnamese and foreign individuals and institutions for programs in support of the social sciences, preservation of endangered cultural heritage, and transformation of training in urban planning. He is currently the curator of *Hanoi:PublicCity*, an online activist community that promotes more inclusive urban development in partnership with Lac Viet Center for Community Development, Vietnam Urban Planning Development Association, Ashui.com online magazine, and the Globalization Research Center of the University of Hawai'i at Mānoa. The project was recently awarded the Bui Xuan Phai prize by the Hanoi People's Committee for its efforts to foster public participation in design.

Ms. Xiaomei DUAN
China Country Director, Institute for Transportation and Development Policy, Guangzhou, China

Ms. Duan serves as country director for the Institute for Transportation and Development Policy and as head of the transport division and vice chief engineer of the Guangzhou Municipal Engineering Design and Research Institute. She has worked on numerous urban transportation projects in Guangzhou as well as in other Chinese cities including Kunming, Harbin, Changzhou, Taiyuan, Wuhu, and Lanzhou. As a nationally accredited senior engineer, she has consulted for The World Bank and the Asian Development Bank on various urban transport issues and has worked with Bus Rapid Transit (BRT) and non-motorized transport projects in China and around the world. For the last six years, she has focused mainly on the Guangzhou BRT planning and design, serving as chief engineer and project manager. The system is the second biggest BRT system in the world and handles approximately 1,000,000 passenger trips daily, an amount exceeded only by the Trans Milenio BRT system in Bogota, Columbia. The Guangzhou BRT contains the world's longest BRT stations—around 260 meters including bridges—and operates with one bus every ten seconds or 350 buses per hour in a single direction. The integrated, multimodal transport system is the first in the world to also include direct physical connection with the subway and bike sharing stations.

Mr. Joris van ETTEN
Capacity Development Coordinator, Cities Development Initiative for Asia, Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), Manila, Philippines

Mr. van Etten is a public administration and local governance specialist with experience in capacity development and institutional strengthening programs

for local governments throughout Asia, Africa, and Eastern Europe. In his current work with GIZ, he is responsible for the design and implementation of capacity development activities at local, national, and regional levels for the Cities Development Initiative for Asia. The key focus of his efforts is to develop and sustain a network of national partner organizations throughout the region to bridge the gap between planning and implementation of urban infrastructure investments. Previously he served as training officer for the UN-Habitat Training and Capacity Building branch in Nairobi, Kenya and as capacity building and training adviser for the Urban Environmental Planning Program in Vietnam. He was also a local governance adviser with GIZ in Jakarta, Indonesia, and held various positions for the Institute for Housing and Urban Development Studies both in the Netherlands and in Indonesia. He has served as a consultant for a wide variety of international financial institutions, multilateral agencies and bi-lateral donors and institutions in the fields of urban management, urban service delivery, and urban infrastructure investments.

Ms. Mingxuan FAN
Research Associate and Program Manager, Global Asia Institute, National University of Singapore

Ms. Fan is a research associate as well as program manager at the Global Asia Institute. She previously worked at the Institute of Water Policy at the National University of Singapore and the Asian Development Bank's Greater Mekong Sub-region Environment Operations Center in Bangkok. Her research focus is on water economics, water-related data analysis, and water management in Asia, especially in China and India.

Dr. Tommy FIRMAN
Professor of Regional Planning, School of Architecture, Planning and Policy Development, Institute of Technology in Bandung, Indonesia

Dr. Firman has written extensively on urbanization and urban and regional planning development in Indonesia. His current research focuses on the impacts of Indonesia's urban decentralization policy. He was a Fulbright visiting scholar at the Department of Urban Planning and Studies at the Massachusetts Institute of Technology in the United States in 1994 and the Institute of Urban and Regional Development at the University of California at Berkeley in 2005.

Dr. Jefferson FOX
Senior Fellow, Environmental Change, Vulnerability, and Governance Study Area, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Fox studies land-use and land-cover change in Asia and impacts on the region and the global environment. He has worked in Bangladesh, Cambodia, China, Indonesia, Laos, Nepal, Thailand, and Vietnam. His ongoing research includes projects on emerging infectious diseases and environmental change in Vietnam for the US National Science Foundation, and rubber plantation expansion in Southeast Asia and impacts on water and carbon dynamics for NASA. He is also the principal investigator on a project on capacity building and strengthening

civil society for community-based resource management in Kachin State for the US Department of State, Bureau of Democracy, Human Rights, and Labor; and he co-leads a project on rural-to-urban transitions and periurban areas in India and Pakistan for the US Department of State, Bureau of South and Central Asian Affairs.

Dr. Roland FUCHS
Senior Fellow, Research Program, East-West Center, and Co-Organizer, Cities at Risk Program, Honolulu, Hawai'i, USA

Dr. Fuchs' current research centers on the challenge of climate change for Asian cities. Before coming to the East-West Center, he served as the director of START (a global change System for Analysis, Research and Training), a project that assists developing countries in conducting research on regional aspects of environmental change, assessing the impacts of such change, and providing information to policymakers. He is the author of "Cities at Risk: Asia's Coastal Cities in an Age of Climate Change." He has also served as vice-rector for academic programs at the United Nations University in Tokyo, Japan, and chairman of the Department of Geography and special assistant to the president of the University of Hawai'i at Mānoa. He is a former president of the International Geographical Union and secretary general of the Pacific Science Association. He has been a visiting professor and researcher with universities in Russia, Nepal, and Taiwan as well as in the United States. His publications include *Urbanization and Urban Policies in Pacific Asia* and *Megacity Growth and the Future*.

Ms. Wardah HAFIDZ
Coordinator, Urban Poor Consortium, Jakarta, Indonesia

Ms. Hafidz is an activist working with the Urban Poor Consortium in Jakarta. She has long defended the urban poor in Indonesia and fought for peace, gender equality, justice, and democracy throughout Asia. In 2005, she was awarded South Korea's prestigious Gwangju Prize for Human Rights. The award commemorates that country's May 18, 1980, uprising, a turning point on the path toward democracy in South Korea. Previous winners include Xanana Gusmao, President of East Timor (2000); Dandeniya Gamage Jayanthi, leader of the Movement for the Disappeared in Sri Lanka (2003); and Aung San Suu Kyi, leader of the opposition National League for Democracy in Myanmar (2004). She was head of the Urban Poor Linkage (UPLINK) from 2005–2007, supervising a US $25 million program for people-centered reconstruction of post-tsunami Aceh. Under this program, 3,300 houses and numerous villages' infrastucture were built, economic recovery was promoted, trauma was addressed, and intercommunity grassroots organizations dedicated to reviving social cohesion were established.

Dr. Colin HARRISON
Distinguished Engineer, Corporate Strategy Team for Smarter Cities, IBM Integrated Technology Delivery Division, Armonk, New York, USA

Dr. Harrison is a distinguished engineer in IBM's corporate strategy team, leading technical strategy for Smarter Cities and focusing on the impacts of information

technology on society. He is a member of the IBM Academy of Technology and a master inventor who has authored numerous patents, including being the inventor of the Smarter Cities technical architecture. Previously, he served as director of strategic innovation in IBM's Integrated Technology Delivery in Europe and director of global services research in IBM's Research Division, where he held many leadership positions. Following university studies in England and Germany, he spent 1972–1977 at the European Organization for Nuclear Research in Geneva developing the SPS accelerator. In 1977, he moved to EMI Central Research Laboratories in London, and led the development of the world's first clinically useful magnetic resonance imaging (MRI) system in 1978. He joined IBM in San Jose, California, in 1979 and the Research Division at IBM in 1988.

Dr. Yu-Hung HONG
Senior Fellow, Lincoln Institute of Land Policy; Visiting Professor, Department of Urban Studies and Planning, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Dr. Hong focuses his research at the Lincoln Institute on property rights and obligations, land management tools, and local public finance, with specific interest in how land value increments created by public investment and community collaboration can be recaptured by the government for financing local infrastructure and social services. He has been teaching urban public finance since 1996. At the Massachusetts Institute of Technology, he teaches budgeting, fiscal policy evaluation, urban public finance in developing countries, and advanced public finance seminars. He was an assistant professor at the University of Akron in Ohio (1999–2003) and at Hong Kong University of Science and Technology (1996–1998). He is the co-editor of nine books including *Smart Growth Policies: An Evaluation of Programs and Outcomes* (2009); *Local Revenues and Land Policies* (2010); *China's Local Public Finance in Transition* (2010); and *Climate Change and Land Policies* (2011). He publishes on topics related to property obligations, public land leasing, land readjustment, and property taxation.

Dr. Marc IMHOFF
Terra Project Scientist, National Aeronautics and Space Administration (NASA) Hydrospheric Biospheric Sciences Laboratory, Goddard Space Flight Center, Greenland, Maryland, USA

Dr. Imhoff works in the Earth Sciences Division at NASA's Goddard Space Flight Center as the project scientist for Terra, NASA's Flagship Earth Observing System Mission. As Terra Project scientist, he coordinates an international research team using Terra and other instruments to study earth's changing atmosphere, oceans, and land surface. He has conducted research on a wide range of topics including the impact of urbanization on biodiversity and food security, urban heat islands and climate, and carbon accounting using remote sensing for the Kyoto Protocol. He was a primary developer of the nighttime satellite imagery showing earth's cities at night and pioneered the use of radar sensors for terrain and vegetation mapping. For three years starting in 2001, he served as the Earth System Science Pathfinder Program Project Scientist for a satellite development program designed to launch low-cost earth probes.

Dr. Kazi Maruful ISLAM
Assistant Professor of Development Studies, Department of Development Studies, University of Dhaka, Bangladesh

Dr. Islam has extensive professional experience in the area of urban local governance, including project/program design and evaluation, advocacy training, capacity building, and application of technology in urban service delivery. For the last several years, he has worked on urban service delivery projects in Bangladesh, focusing mainly on urban health care governance in the cities of Dhaka, Rajshahi, and Chittagong. He has delivered a series of training and capacity development activities in Bangladesh for the Asia Foundation and served as a member of an expert panel on governance issues for the Canadian International Development Agency. He also was the principal investigator of a study on governance of primary health care services in Bangladeshi cities for the Faculty of Social Science, University of Rajshahi.

The Honorable Syed Mustafa KAMAL
Former Mayor of Karachi, Pakistan

The Honorable Syed Mustafa Kamal was elected the second mayor of Karachi, the largest city in Pakistan, in 2005. He served until 2010, when the 17th Amendment to the Constitution of Pakistan abolished the post of "mayor" in all cities across the country. He currently is a member of the Muttahida Qaumi Movement, Pakistan's third-largest political party, and serves on the coordinating committee. Under his leadership as mayor, many new and innovative programs were implemented, including the "I Own Karachi" initiative which encouraged citizens to contribute their time and ideas for bettering the city. In addition, he guided Karachi's first-ever master plan; established a city-wide command and control center to help ease traffic flow, maintain public safety, and reduce crime; and undertook major improvements of the city's medical facilities with the construction of a state-of-the-art trauma center and four fully equipped heart care centers offering services to the poor free of charge. He also introduced the concept of public/private partnerships by working with the World Memon Organization to set up a job training institute for Karachi's youth. Throughout his tenure, he promoted Karachi overseas, and the city received a significant influx of foreign investment. In 2009 he traveled to the United States to sign a sister-city agreement between Karachi and Houston, Texas. The World Economic Forum named him as one of its Young Global Leaders for 2010, and he was also selected as one of the 25 finalists for the 2010 World Mayor Prize.

Mr. Adam KAPLAN
Special Programs Manager, Sister Cities International, Washington, DC, USA

Mr. Kaplan manages the Africa Urban Poverty Alleviation Program at Sister Cities International, an association of over 650 sister city programs representing over 2,000 international partnerships. The program implements water, sanitation, and health projects in 24 African cities in 13 countries through sister city relationships. The program also supports regional sister city organizations which will promote city twinning and engage existing partnerships throughout the continent.

Sister city relationships are volunteer-based partnerships between cities which may include municipal employees, local institutions, nongovernmental organizations, private enterprises, and individual citizens performing a range of cultural, educational, economic, and technical exchanges. Prior to his current role, he managed several international exchange programs, working with the National Council for International Visitors.

Dr. Alan KELLY
Dean Emeritus, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Dr. Kelly joined the Department of Pathobiology at the Veterinary School in 1968, where he taught pathology and pursued research on neuromuscular development in the rat and on the pathogenesis of Duchenne muscular dystrophy. In 1994 he became dean of the School of Veterinary Medicine and served for twelve years, retiring in 2005. Since retiring, he has introduced a course on global health for veterinary students and has led the PennVet World Award and Student Inspiration Award competitions. He also chairs the National Academy of Sciences study on Workforce Needs in Veterinary Medicine. Currently, he serves on several boards, including the ASPCA, the Zoological Society of Philadelphia, and the Institute for Human Gene Therapy Advisory Board.

Ms. Christine KESSIDES
Urban Practice Manager, World Bank Institute, The World Bank, Washington, DC, USA

Ms. Kessides manages a program at the World Bank Institute that provides capacity development support for a wide range of global to local urban development activities including planning and land management, municipal finance and governance, urban services, public safety, and resilience to disaster risks and climate change adaptation. Her program focuses on three main approaches: facilitating knowledge exchange among urban practitioners and networks, structured learning (especially distance learning courses delivered through the new World Bank Institute's E-Institute and with regional partner institutions), and hands-on engagement with country and city counterparts. Previously, she was the lead urban economist and urban program leader at The World Bank's Sustainable Development Department, Water and Urban unit, in Europe and Central Asia Region. From 2005–2010, she managed urban and municipal projects in the Western Balkans, Poland, Turkey, and Russia. She wrote the Bank's 2000 urban and local government strategy, *Cities in Transition*; initiated and managed the Urban Research Symposium series; and represented the Bank in the United Nations Task Force on Millennium Development Goals Target 11 (the slum upgrading target).

Dr. Kyung-Hwan KIM
Professor of Economics, Sogang University, Seoul, Korea

Dr. Kim has taught at Sogang University since 1988 and served as dean of faculty and academic affairs from 2006–2009. He is a fellow at the Weimer Graduate School of Advanced Studies in Real Estate and Urban Land Economics, a research

affiliate at the Centre for Asset Securitization and Management in Asia of the Sim Kee Boon Institute for Financial Economics at Singapore Management University, and a research fellow at the Penn Institute for Urban Research, University of Pennsylvania. His research areas include urban land and housing markets, housing finance and taxation, regulations, housing macro linkages, and cities and climate change. He was co-editor of the economics and finance section of the *International Encyclopedia of Housing and Home*, forthcoming from Elsevier, and is a member of the editorial board of the *Journal of Housing Economics*. He also currently serves as president of the Korea Real Estate Analyst Association (2011–2012) and Korea Association for Housing Studies (2011). Previously, he was urban finance advisor to the United Nations Center for Human Settlements, UN-Habitat (1994–1996), visiting professor of real estate and urban economics at the University of Wisconsin-Madison (2002–2003), and visiting professor at the School of Economics, Singapore Management University (2009–2010 and 2010–2011). He has also served on various government committees on real estate, urban, and regional issues in Korea, including the Presidential Commission on Regional Development, the Committee on National Land and Urban Planning, and the Committee on Urban Planning of the City of Seoul. In addition, he has worked as a consultant for the United Nations Development Program, The World Bank, and UN-Habitat.

Mr. Kunihiro KONDO
Senior Chief Engineer and General Manager of High Speed Rail, Japan Railway Company (JR Central), Washington, DC, USA, and Tokyo, Japan

Mr. Kondo has overall responsibility for the direction, supervision, and coordination of high-speed railway engineering activities and projects for the Japan Railway Company in the United States. He has over 30 years of experience in the railway industry, 24 of which have been with JR Central. His professional expertise and background includes infrastructure management, investment planning, train operation, and research and development activities.

Dr. Aprodicio LAQUIAN
Professor Emeritus, Center for Human Settlements, School of Community and Regional Planning, University of British Columbia, Vancouver, Canada

Dr. Laquian was director of the University of British Columbia's Centre for Human Settlements and professor at the School of Community and Regional Planning from 1991–2000. Following his retirement, he was a visiting scholar and acting director of the Special Program in Urban and Regional Studies, Department of Urban and Regional Planning, Massachusetts Institute of Technology, USA (2001–2002); and a fellow at the Woodrow Wilson Center for International Scholars in Washington, DC, where he wrote a book on the planning and governance of the 14 largest cities in Asia. In 2007–2008, he worked as lead urban planning specialist at the Asian Development Bank providing policy and operational advice on the delivery of urban services through public-private partnership schemes in Asian cities. He has written or edited at least 24 books and numerous articles on Asian development, with a special focus on urbanization, population growth, the planning and governance of megaurban

regions, inner city redevelopment, slum upgrading, and the delivery of urban infrastructure and services in city regions. These include *Urban Development Experience and Visions: India and the People's Republic of China* (2008) and *City Cluster Development: Toward an Urban Led Development Strategy for Asia* (2008), both published by the Asian Development Bank; and *The Inclusive City: Infrastructure and Public Services for the Urban Poor in Asia* (2007) and *Beyond Metropolis: The Planning and Governance of Asia's MegaUrban Regions* (2005), both published by Woodrow Wilson Center Press and Johns Hopkins University Press. With a professional career spanning nearly forty years, he has held numerous positions within the United Nations including chief of the Evaluation Division at the United Nations Population Fund in New York; the fund's country director for China, Outer Mongolia, and North Korea; and senior adviser on population for the South Pacific.

Mr. Ajit MOHAN
Independent Consultant and Principal, Blue Lotus Advisory Services, New Delhi, India

Mr. Mohan serves private and public institutions in emerging markets in his current position. Previously, he spent five years at McKinsey and Company's New York and New Delhi offices. As a fellow at the McKinsey Global Institute, he co-authored "India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth," a roadmap for urban reforms in India, which was presented to the prime minister in 2010. He led a major research effort that outlined new approaches in urban financing, governance, and planning for India—including the first large-scale concept plan for the Mumbai metropolitan region—working in collaboration with the government of India, including the planning commission and the ministries of Urban Development and Housing and Urban Poverty Alleviation, as well as several state and city governments. He also worked with Arthur D. Little in its Singapore office, serving clients in East Asia, and with local and international companies in the United States, Latin America, Europe, and Southeast Asia on projects including the organizational transformation of a public school district in the United States, the national replication of a welfare services organization in New York, a national agenda for women's reproductive rights in India, and a program to reduce childhood deaths from diarrhea in India. He writes on urban issues, most recently for the *Business Standard* and the *World Policy Journal,* and is a fortnightly columnist for the *Wall Street Journal's India Real Time*. He is a member of the Executive Council of the Indian School of Business's Centre for Emerging Markets Solutions, and an independent advisor to the Economic Policy and Planning Committee of the Congress Party in Kerala, India.

Dr. OH Jae Hak
Director, Global Research Office for Green Growth and Convergence, Korea Transport Institute, Seoul, Korea

Dr. Oh has been with the Korea Transport Institute since 1992, taking a one-year leave of absence in 1995 to serve as an associate professor at the Tokyo Institute of Technology in Japan. His background covers all aspects of transport engineering, including planning, logistics, the application of information

technology to transport, and Green Growth Policy. At present, he is a senior research fellow and director of the Global Research Office for Green Growth and Convergence at the Institute. During the last 20 years, he has managed more than 50 of the Institute's transport projects and played a key role in formulating many national policies on transport logistics and infrastructure for the Korean government. He served as secretary general for the 2001 World Conference on Transport Research in Seoul, and is currently on the editorial board of the *Journal of Transport Policy*.

Mr. Stefan PRYOR
Deputy Mayor and Director, Department of Economic and Housing Development, City of Newark, New Jersey, USA

Mr. Pryor oversees the city offices responsible for economic development, city planning, and housing, among others. Previously, he served as the president and chief executive of the Lower Manhattan Development Corporation, created by the State and City of New York to help rebuild and revitalize lower Manhattan following September 11, 2001. He has also served as a vice president at the Partnership for New York City on its school reform program. In the mid-1990s, he worked as policy advisor to the mayor of New Haven, Connecticut, and co-founded the Amistad Academy, a highly acclaimed charter school in New Haven. He served as the school's first board president. Amistad's expansion organization, Achievement First, has opened additional schools in New Haven and in Brooklyn, New York. He has recently been named the Commissioner of Education for the State of Connecticut.

Dr. Mary RACELIS
Research Scientist, Institute of Philippine Culture, Ateneo de Manila University, Quezon City, Metro Manila, Philippines

Dr. Racelis is the former director of the Institute of Philippine Culture. She teaches anthropology and sociology at the graduate level, and her research interests include poverty and well-being among urban informal settlers, urbanization, community organizing and public participation, children and youth, gender, reproductive health, civil society, and sustainable development. Active with nongovernmental and public organizations, she sits on several international and national boards supporting community action. Her current work focuses on socio-cultural and gender issues among people affected by the construction of the Nam Theun 2 dam in Lao PDR. Her Philippine involvements address land acquisition and resettlement strategies of the urban poor, and research on the everyday lives of children, adolescents, and young adults in informal urban settlements. Since 1997 she has served as a consultant to the Philippine government, UNICEF, The World Bank, the Asian Development Bank, Australia International Development, and various international foundations. She was UNICEF regional director in Eastern and Southern Africa (1983–1992), based in Kenya; country representative of the Ford Foundation in the Philippines (1992–1997); and appointed to United Nations Secretary-General Kofi Annan's Panel on United Nations-Civil Society Relations (2003–2004). Her publications include *Making Philippine Cities Child Friendly: Voices of*

Children in Poor Communities (2005) and *Bearers of Benevolence: The Thomasites and Public Education in the Philippines* (2001).

The Honorable Jesse ROBREDO
Secretary, Philippines Department of the Interior and Local Government, and Former Mayor, Naga City, Philippines

Secretary Robredo was appointed Secretary of the Department of the Interior and Local Government in 2011 by Philippine President Benigno Aquino III after stepping down as mayor of Naga City in 2010. He served as the mayor of Naga City for six three-year terms, and was first elected mayor in 1988 at the age of 29. He began his public service in Naga in 1986 as director of the Bicol River Basin Development Program, tasked to undertake integrated area development planning in the region's three provinces. During his long tenure, Naga became a premier city in the Bicol region of the Philippines, and he was cited in 1999 by *AsiaWeek Magazine* for transforming Naga from a lethargic Philippine city in 1988 into one of Asia's "most improved" cities by energizing the bureaucracy and dramatically improving peoples' participation in governance. Today, Naga is considered a model local government in the Philippines—a laboratory of local government innovation. In 1995, he was elected by his peers to serve as president of the League of Cities of the Philippines, the national association of city mayors. He was also elected chairman of the Regional Development Council, the regional planning and coordinative body of Bicol's six provinces and seven cities. Under his leadership, Naga City was named the "Most Cost-Effective City in Asia" by the United Kingdom's *Foreign Direct Investment Magazine (*2005).

Dr. Catherine ROSS
Director, Center for Quality Growth and Regional Development; Professor of City and Regional Planning, College of Architecture, Georgia Institute of Technology, Atlanta, Georgia, USA

Dr. Ross is an internationally known transportation expert and urban planner with extensive experience in the public and private sectors. Her research explores solutions to numerous problems including affordable housing, global warming, keeping local jobs in a global economy, transportation planning, air quality and health impact, and spatial planning. Her work has been funded by the National Science Foundation; the US Department of Transportation, Housing and Urban Development; the US Environmental Protection Agency; the Lincoln Institute of Land Policy-China; the Federal Transit Administration; and many city, state, and local governments throughout the country and internationally. She is the Harry West Professor in the College of Architecture at Georgia Institute of Technology, and has held several other positions including vice provost and co-director of the Transportation Research and Education Center. In 2009, she was selected to advise the Obama Administration's White House Office of Urban Affairs. Previously, she was the executive director of the Georgia Regional Transportation Authority (1999–2003), an innovative regional state agency created by the Georgia Legislature in 1999 to help 13 counties out-of-compliance with clean air standards develop new transportation services, plans,

and strategies to help them meet or exceed federal requirements. She also served as senior policy advisor to the Transportation Research Board of the National Academy of Sciences and the Metropolitan Atlanta Rapid Transit Authority. She was the recipient of the "Find the Good and Praise It Award" presented in 1998 by Secretary of Transportation Rodney Slater for her work on the National Personal Transportation Survey Team. She has published extensively, including two books, *The Inner City: Urban Poverty and Economic Development in the Next Century* (1997) and *Megaregions: Planning for Global Competitiveness* (2009).

Dr. Sumeet SAKSENA
Fellow, Environment and Health Study Area, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Saksena has been a fellow at the East-West Center since 2001. He also serves as affiliate faculty in the Department of Urban and Regional Planning, University of Hawai'i at Mānoa. Prior to coming to the Center, he worked at the Energy and Resources Institute, New Delhi, India, for 13 years. He conducts research on environmental risk assessments, environmental health, and environmental justice, and is currently principal investigator of a project on rural-to-urban transitions and periurbanization in India and Pakistan for the US Department of State. As co-principal investigator of a US National Science Foundation project on emerging infectious diseases and environmental change in Vietnam, he is testing the hypothesis that certain environmental health problems reach their peak intensity in periurban areas. He has also conducted pioneering studies of commuters' personal exposure to air pollution in Delhi, Bangalore, and Hanoi, relating globalization and urbanization to commuting behavior and exposures. He serves as a senior advisor on curriculum development at the Indian Institute of Human Settlements, India.

Dr. Wicaksono SAROSA
Executive Director, Partnership for Governance Reform (Kemitraan), Jakarta, Indonesia

Dr. Sarosa's interests focus on planning, management, and governance for sustainable urban development, including the relationships with the critical issues of dealing with the informal economy, strengthening social capital, and managing environmental sustainability. From 2001–2006, he was the executive director of the Urban and Regional Development Institute, a Jakarta-based research and training organization. He worked as an independent consultant, researcher, and training facilitator on urban environmental, planning, and governance issues from 2007–2009, and led a team commissioned by the National Planning Agency (Bappenas) to formulate Indonesia's National Urban Strategy and Policy. During this time he also taught various classes (urban ecology, urban management, and planning methods/processes) at Trisakti University.

Mr. Mitchell SILVER
Chief Planning and Economic Development Officer and Director, City of Raleigh Department of Planning; President-Elect, American Planning Association, Raleigh, North Carolina, USA

Mr. Silver has over 25 years of planning experience in the public and private sectors. He formerly served as the deputy director in the Office of Planning in Washington, DC, Northern Manhattan planning and policy director for the Manhattan Borough President in New York City, and as a city planner in the New York City Planning Department. As planning director in Raleigh, North Carolina, he has led the comprehensive plan update process to create a vibrant 21st century city. He is now overseeing a rewrite of the city's development code. As president-elect of the American Planning Association, he will serve one year before assuming the presidency of the 42,000-member organization for a two-year term. The American Planning Association is committed to promoting better communities through good planning. He is a contributing editor and author of the International City/County Management Association's *Local Planning: Contemporary Principles and Practice* (2009). His work and commentary have been featured in *Time.com*, the *New York Times*, *Planning Magazine*, CNBC.com, the *Triangle Business Journal, Crain's Business Journal,* and National Public Radio.

Dr. James SPENCER
Director, Globalization Research Center, and Associate Professor, Departments of Urban and Regional Planning and Political Science, University of Hawai'i at Mānoa; Adjunct Fellow, Research Program, East-West Center, Honolulu, Hawai'i, USA

Dr. Spencer's current research focuses on urbanization in Southeast Asia, with a particular focus on Vietnam and a more general interest in Cambodia, Indonesia, and other parts of Asia. Primary areas of research in Asia include local water governance, urban transition, and development. He has also published scholarly work on urban policy and inequality in the United States. Funded in part by the National Science Foundation, the Social Science Research Council, and the Ford Foundation, his work has appeared in *Environment and Planning*, *Urban Affairs Review*, the *Journal of Planning Education and Research*, and the *Economic Development Quarterly*, as well as elsewhere, and he is currently completing a book manuscript for Rowman & Littlefield on globalization and urbanization, using cases from Asia, North America, and Africa. He has been consulted by and referred to in publications such as *Bloomberg News*, *The Asian Wall Street Journal*, *USA Today*, and the *Economist*, among others. He has served as an advisor to the Office of Hawaiian Affairs; the US Department of Defense Pacific Command (Humanitarian Assistance); the Vietnamese cities of Hue and Quy Nhon; the Royal Government of Cambodia Ministry of Land Management, Urban Planning and Construction; and the City of Los Angeles Office of Economic Development. Prior to his current position, he worked in the Ford Foundation's Community and Resource Development Unit in New York where he supported urban community development institutions throughout the United States by preparing program strategy papers on community development and the environment in the United States and globally.

Mr. William STAFFORD
Senior Advisor and former President, Trade Development Alliance of Greater Seattle, Washington, USA

Mr. Stafford served as the first president of the Trade Development Alliance of Greater Seattle (1991–2011). Prior to this, he worked for the City of Seattle in a number of positions, including deputy mayor and director of the Office of Intergovernmental Relations, where he was responsible for the city's national, state, regional, and international relations. He has been involved in a number of national urban advisory committees and is currently a member of the Citistates Associates. Prior to joining the City of Seattle, he worked for Ford Motor Company. He has also been an affiliate professor at the Graduate School of Public Administration, University of Washington. He has been active in the Seattle area community for many years, and chairs the Seattle Sister City Coordinating Council. He is a member of the US Department of Commerce's District Export Council and Washington State Economic Commission. He has also served as executive board member of the Japan America Conference of Mayors and on the National Advisory Committee of the US Small Business Administration.

Dr. Shamim Hayder TALUKDER
Founder and Chief Executive Officer, Eminence Associates for Social Development, and Secretary, Bangladesh Urban Health Network, Dhaka, Bangladesh

Dr. Talukder is the founder of Eminence, a nonprofit organization established in 2002 to focus on health, nutrition education, and environmental concerns in Bangladesh. To date, he has conducted more than 40 evaluation studies on urban health, nutrition, child and maternal health, HIV/AIDS, and water and sanitation. Through his work with Eminence, he has been recognized in the health sector for distinctive achievements in research, advocacy, training, program design, and promoting the involvement of the private sector through influential marketing activities. He also serves as a member secretary of several professional associations in Bangladesh including the Bangladesh Urban Health Network, Non-Communicable Diseases Forum, and the recently formed Bangladesh Nutrition and Food Security Network.

Dr. Bernadia Irawati TJANDRADEWI
Program Director, CITYNET, Yokohama, Japan

Dr. Tjandradewi is the program director of the Regional Network of Local Authorities for the Management of Human Settlements (CITYNET). She has more than 14 years of experience in urban development and capacity building of local governments and has led the growing programs of CITYNET, which received the UN-Habitat Scroll of Honor award in 2002 for its key role in facilitating city-to-city cooperation and networking among local governments, nongovernmental organizations, and development agencies throughout Asia. She has also served on various committees including the UN-Habitat Awards for Gender Responsive Local Governments in Asia-Pacific and the UN-Habitat/Dubai International Award for Best Practices. Prior to coming to CITYNET, she worked for the Indonesian Branch of the Japan International Cooperation

Agency and the Agency for the Assessment and Application of Technology of the Government of Indonesia.

Mr. Timeyin UWEJAMOMERE
Senior Urban Policy Analyst, WaterAid, London, United Kingdom

Mr. Uwejamomere is an urban and regional planner specializing in urban water and sanitation services. He is co-author of several policy papers, advocacy briefs, and training manuals on the environment, climate change, urbanization, and urban sanitation services including the toolkit *Our Water, Our Waste, Our Town.* He recently led a study on the effectiveness of The World Bank's International Development Association urban investments. Prior to coming to WaterAid's headquarters in the United Kingdom, he served as head of the Advocacy and Communication Department for WaterAid in Nigeria, which he established in 2003. He was instrumental in drafting the water sanitation policy in Nigeria and establishing a nongovernmental organization network for water and sanitation services. Between 1999–2003, he chaired the Board of Lagos Mainland Local Planning Authority, preparing two communities for funding under a World Bank-assisted urban renewal program. He also worked in journalism for 13 years, and was deputy housing and environment editor of *The Guardian* in Nigeria. He is a fellow of the Leadership for Environment and Development Programme in London.

Dr. Kalanithy VAIRAVAMOORTHY
Founding Director, Patel School of Global Sustainability, University of South Forida, Tampa, Florida, USA

Dr. Vairavamoorthy is an internationally recognized expert on urban water issues. The action research programs he has led connect researchers to the communities they serve. His main research areas focus on the development of new techniques for the flexible design of urban water systems, the application of optimization techniques, and the development of risk assessment approaches for the design of sustainable urban water systems. He co-chairs the International Water Association's Cities of the Future Program and jointly coordinates UNESCO's Urban Water Program. He is also the director of SWITCH (Sustainable Water Management Improves Tomorrow's Cities' Health) project, a large European Union-funded research project for sustainable urban water management. The SWITCH project is a collaborative effort between cities in Europe, South America, China, and the Middle East to examine how urban water and sewage needs could be improved through research, design, and innovative technologies. The effort focuses on projected needs of cities 30 to 50 years from now in hopes that better planning will mitigate and remediate the effects of climate change, urban growth, and global poverty. Prior to coming to the University of South Florida, he was chair professor of water engineering in the Department of Civil Engineering at the University of Birmingham, United Kingdom, and chair professor of sustainable urban water infrastructure systems at UNESCO's Institute of Water Education in Delft, Netherlands.

Dr. Srinivasa Chary VEDALA
Dean of Research and Management Studies and Director of the Center for Energy, Environment, Urban Governance, and Infrastructure Development, Administrative Staff College of India, Hyderabad, India

Dr. Vedala specializes in governance, institutional reforms, and capacity building for improvements in urban service delivery. With more than 20 years of professional experience as an engineer, urban planner, and management professional, his work has focused extensively on projects addressing 24/7 water supply and urban sanitation. He was elected to the Ashoka Fellowship in 2006 for reforming how water is delivered in Indian cities, with the goal of improving poor peoples' access to potable water, by working on the technical aspects of water systems as well as on how public officials manage their work. He has led over 130 advisory, consulting, and research assignments both in India and South Asia, conceptualizing and implementing structured capacity-building programs for elected representatives and urban sector professionals. He pioneered and developed a unique program (in partnership with the World Bank Institute) to professionalize and provide cutting-edge skill sets to urban managers through a certification program in Urban Management offering comprehensive training and field experience. He is currently leading a large-scale capacity-building program in India for promoting public-private partnerships in urban water and sanitation. He was also instrumental in establishing the Urban Resource Link, a unique model of knowledge support for cities and water utilities, and the Change Management Forum, which facilitates peer learning within a network of municipal officers and elected representatives. He facilitates the National Urban Water Awards program to recognize excellence in urban water management for water utilities and municipalities in India.

Dr. Susan WACHTER
Co-Founder and Co-Director, Penn Institute for Urban Research, University of Pennsylvania, Philadelphia, Pennsylvania, USA

Dr. Wachter is the Richard B. Worley Professor of Financial Management and professor of Real Estate and Finance at the Wharton School, and professor of City and Regional Planning at the School of Design, University of Pennsylvania. Through the Penn Institute for Urban Research, she serves as co-editor of the City in the 21st Century series, published by the University of Pennsylvania Press. She is the author of over 150 publications. Her recent books include *Neighborhood and Life Chances: How Place Matters in Modern America* (2011), co-edited with Harriet Newburger and Eugenie Birch; *Women's Health and the World's Cities* (2011), co-edited with Afaf Meleis and Eugenie Birch; *Global Urbanization* (2011); *Growing Greener Cities* (2008); and *Rebuilding Urban Places after Disaster: Lessons from Katrina* (2006), co-edited with Eugenie Birch. She served as US Department of Housing and Urban Development Assistant Secretary for Policy Development and Research (1998–2001), a President-appointed and Senate-confirmed position. As assistant secretary, she was the nation's senior policy official advising on US housing and urban policy, including research and regulation of housing financial institutions. A former chairperson of the Wharton

Real Estate Department, she has served as president of the American Real Estate and Urban Economics Association and co-editor of *Real Estate Economics*. She currently serves on a number of editorial boards, including the *Journal of Real Estate Economics*, *Journal of Real Estate Finance and Economics*, *Journal of Housing Economics*, and the *Journal of Housing Policy Debate*. In 2005, she received the Lifetime Achievement Award from the American Real Estate and Urban Economics Association.

Mr. Chi Chung WONG
Executive Vice President, Planning, Design + Development, AECOM Asia, Hong Kong, China

Mr. Wong is an architect, city planner, and urban designer with extensive experience in planning and design in the United States, China, Taiwan, Hong Kong, and countries throughout Southeast Asia. He has overseen master planning projects that range from the preparation of specific planning and urban design guidelines to the development of large-scale, regional land use and strategic plans for both the public and private sectors. As one of AECOM Asia's key leaders, he executes the strategy of developing and deploying the resources of an integrated, global design platform that includes architecture, design, planning, and economics throughout the region. Focused on promoting collaborative work across regions, he directs multidisciplinary teams for projects. He has been with AECOM since early 2003, and has been integral in the company's growth and success in Asia. As a thought leader on sustainable planning and land development, he believes that in order to create great places, one should be both sensitive to the environment and responsible to society.

Dr. ZHENG Shiling
Director, Institute of Architecture and Urban Space, School of Architecture and Urban Planning, Tongji University; Director, Committee for Urban Development Strategy, Shanghai Planning Commission, Shanghai, China

Dr. Zheng is one of China's leading architects and theorists. He has served as vice-president of Tongji University (1995–2000) and dean of the School of Architecture and Urban Planning (1992–1995). He is a member of the Chinese Academy of Sciences and an honorary fellow of the American Institute of Architects. He served as chief curator for the World EXPO 2010 in Shanghai. Over the years he has lectured at universities and forums in countries around the world. His main publications include *On the Rationality of Architecture: The Value System and Symbolism of Architecture* (1997), *Kisho Kurokawa: The Famous Foreign Architects Library* (1997), *The Evolution of Shanghai Architecture in Modern Times* (1999), *The Architecture Criticism* (2001), *Tracing Back: The Excellent Architecture of Modern Times in Shanghai* (2001), *The World EXPO and Architecture* (2009), and *World Cities: Shanghai* (2002), as well as, *Globalization and the Way of Chinese Cities,* co-authored with Alan Balfour. From 1984–1986 he was a visiting scholar at the Faculty of Architecture, Università degli Studi di Firenze in Italy. In 1989 he was invited to teach as a George A. Miller Professor at the College of Fine and Applied Arts, University of Illinois in the United States. In 1996 he was elected president of the Shanghai Architectural Society and

elected vice president of Architectural Society of China later in the same year, as well as member and fellow of various organizations. In 1998 he was appointed director of the Shanghai Committee of Urban Space and Environment and director of the Expert Committee for the Preservation of Historical Areas and Heritage Architecture.

Suggested Readings

The readings listed here were provided by seminar participants who responded to a general request from the East-West Center and the Penn Institute for Urban Research for articles, books, and other readings that could be shared with the group and others.

Administrative Staff College of India and CISCO. 2011. *Use of ICT for Effective Urban Governance and Service Delivery in India: A Selection of Cases.* Retrieved from http://www.indiawaterportal.org/node/21018.

Administrative Staff College of India and Ministry of Urban Development, India. 2010. *Compendium of Good Initiatives—National Urban Water Awards 2009.* Retrieved from http://www.urbanindia.nic.in/programme/uwss/compendium.pdf.

Angel, Shlomo, J. Parent, D. Civco, and A. Blei. 2011. *Making Room for a Planet of Cities*. Policy Focus Report, Lincoln Institute of Land Policy.

Bach, Sinh Tan, and Toan Canh Vu. 2011. *Climate Change Resilience Planning Policy Lessons from ACCCRN Vietnam: Asian Cities Climate Change Resilience Network Vietnam Component.* National Institute for Science and Technology Policy and Strategy Studies.

Bai, X. 2003. "The Process and Mechanism of Urban Environmental Change: An Evolutionary View." *International Journal of Environment and Pollution, 19* (5): 528–541.

Bai, X., and H. Imura. 2000. "A Comparative Study of Urban Environment in East Asia: Stage Model of Urban Environmental Evolution." *International Review for Environmental Strategies, 1* (1): 135–158.

Bai, X., B. Roberts, and J. Chen. 2010. "Urban Sustainability Experiments in Asia: Patterns and Pathways." *Environmental Science & Policy, 13*: 312–325.

Banerjee, B., L. van den Dool, M. van Eerd, and A. Ruijsink. 2001. "Local Urban Knowledge Arenas: The Importance of Being Networked." *The Broker, 24*: 18–21.

Barenstein, J.D., M. Racelis, and M.L.G. Rebullida. 2010. *Land Tenure Security and Social Housing Projects in the Philippines.* Final Report, Volume 1.

Birch, E.L., and S.M. Wachter. 2011. "World Urbanization: The Critical Issue of the Twenty-First Century," in E.L. Birch and S.M. Wachter. eds. *Global Urbanization*. Philadelphia: University of Pennsylvania Press: 3–23.

Campbell, T. 2011. "Beyond Smart Cities: How Cities Network, Learn and Innovate." (Chapter in unpublished book).

Central Japan Railway Company. *Data Book 2010*. Retrieved from http://english.jr-central.co.jp/company/company/others/data-book/pdf/2010.pdf.

Chandy, M., and D. Elliott. 2007. *The Use of Transfer of Development Rights and Additional Development Rights in Urban Services Upgrading: Lessons from Mumbai, India*. Washington, DC: CHF International.

CHF International. 2010. *Slum Communities Achieving Livable Environments with Urban Partners (SCALE-UP)*. 2010 Annual Progress Report: India and Ghana. Washington, DC.

The Cities Development Initiative for Asia. 2010. *CDIA Capacity Development Strategy and Action Plan 2010–2012.*

The Cities Development Initiative for Asia. 2010. *Enhancing the Quality of Urban Infrastructure Investments*. (Presentation). Retrieved from http://www.cdia.asia/wp-content/uploads/Session-1-CDIA-Introduction-J-van-Etten.pdf.

d'Cruz, C. 2009. "Leadership in Urban Areas." *Tiempo, 72*: 3–8.

DPA. 2009, March 3. "Hotel Project in Socialist-Era Hanoi Park Draws Protests." *Earthtimes.* Retrieved from http://www.earthtimes.org/articles/printstory.php?news=258228.

Engel, Katalina, D. Jokeil, A. Kraljevic, M. Geiger, and K. Smith. 2011. *Big Cities. Big Water. Big Challenges. Water in an Urbanizing World*. World Wildlife Fund, Berlin, Germany.

Fjellstrom, K. 2010, December 22. *High Capacity BRT Planning, Implementation and Operation: Case Study of the Guangzhou BRT.* ITDP-China.

Fjellstrom, K. 2006, May. *Options for Financing Bus Rapid Transit in China*. The Institute for Transportation and Development Policy. The China Academy of Urban Planning and Design. Retrieved from http://www.itdp.org/documents/China%20BRT%20Financing, %20Final.pdf.

Geary, Bob. 2009, March 18. "Imagine Raleigh without Sprawl." *Indy Week*. Retrieved from http://www.indyweek.com/indyweek/imagine-raleigh-without-sprawl/Content?oid=1214483.

Goldberg, Steve. 2011, March 25. "Reigning in Sprawleigh." *Time*. Retrieved from http://www.time.com/time/specials/packages/article/0,28804,2026474_2026675_2061559,00.html.

Hang, T. 2009, February 27. "Sweden Denies Hotel Project Partnership." *Vietnews Online*. Retrieved from http://vietnewsonline.vn/News/Business/Companies-Finance/5314/Sweden-denies-hotel-project-partnership.html.

Hong, Yu-Hung. 2007. *Land Readjustment: A Possible Alternative to Eminent Domain and Tool for Equitable Urban Redevelopment.* Learning Workshop organized by the UN-Habitat Training and Capacity Building Branch in collaboration with the Global Land Tool Network.

Hong, Yu-Hung. 2011, June 21–22. *Prospects for Land Readjustment.* Presentation for UN-Habitat's Expert Group Meeting, Nairobi, Kenya.

Hoyle, Amanda Jones. 2011, January 28. "Raleigh Ready to Redo Codes for Developers." *Triangle Business Journal*. Retrieved from http://www.bizjournals.com/triangle/print-edition/2011/01/28/raleigh-ready-to-redo-codes-for.html?page=all.

Institute for Social and Environmental Transition (ISET). 2010. "The Shared Learning Dialogue: Building Stakeholder Capacity and Engagement for Resilience Action." Climate Resilience in Concept and Practice Working Paper Series. Boulder, Colorado.

Invest-Element Consulting Company Ltd. 2009. *Hotel Novotel Hanoi on the Park*. Retrieved from http://invest-element.com/en/updating-general-information/hotel-novotel-hanoi-on-the-park.html.

Kavanaugh, Kelly. 2010, November 2. *Urban 'Greenprint' Essential for City of Tomorrow. Hold on, It'sComing.* Retrieved from http://www.modeldmedia.com/features/cityoftomorrow1110.aspx.

Kelly, A. M., D.T. Galligan, and J.D. Ferguson. 2007. *Food Security and the Urbanized South*. (unpublished). University of Pennsylvania School of Veterinary Medicine, Philadelphia.

Kessides, C. *Addressing the Urbanization Challenge: Innovative Solutions for Cities*. The World Bank. Retrieved from http://wbi.worldbank.org/wbi/Data/wbi/wbicms/files/drupal-acquia/wbi/urban_overview_2011_nospread.pdf.

Kondo, K. 2010. *Impact of HSR on Urban Development—Case of Japan*. Central Japan Railway Company.

Kondo, K. 2010, October 4. *High-Speed Rail Innovation in Japan – The Shinkansen and Innovation*. Central Japan Railway Company. Presented in New York, NY.

Laquian, A.A. 2005. *Metropolitan Governance Reform in Asia*. (unpublished). University of British Columbia, Vancouver.

Laquian, A.A. 2008. *The Planning and Governance of Asia's Mega-Urban Regions*. (unpublished). University of British Columbia, Vancouver.

Mojan, A. 2011, January 5. "The Future of the City: Balancing Competition and Accountability." *World Policy Blog*. Retrieved from http://www.worldpolicy.org/blog/2011/01/05/future-city-balancing-competition-and-accountability.

Mojan, A. 2011, January 11. "The Future of the City: No More Instant Utopias." *World Policy Blog*. Retrieved from http://www.worldpolicy.org/blog/2011/01/11/future-city-no-more-instant-utopias.

Mojan, A. 2011, September 20. "Weekend Panorama: Who Will Champion India's Cities?" *The Wall Street Journal.* Retrieved from http://blogs.wsj.com/indiarealtime/2011/09/10/weekend-panorama-who-will-champion-india's-cities.

Newton, P., and B. Xuemei. 2008. "Transitioning to Sustainable Urban Development," in P.W. Newton, ed. *Transitions: Pathways Towards Sustainable Urban Development in Australia*. Springer Verlag: 3–19.

Oh, J., and J.Y. Lee. 2011. "Creation of KTX Economic Zone: Hub of Regional Economy." *Proceedings of the Eastern Asia Society for Transportation Studies*: 8.

Oh, J. 2011, March. *Innovation in Transport Systems for Green Growth*. Presented at 2011 World Bank Transport Forum.

Ovaska, Sarah. "Planner Envisions a Greater Raleigh." *Newsobserver.* Retrieved from http://www.newsobserver.com/2010/06/06/517077/planner-envisions-a-greater-raleigh.html.

Racelis, M. 2011, August 22. *State of Urban Children in the World*. Presented UNICEF's Second Forum on Children and Urban Environment.

Racelis, M. 2011, September 12. *Growing Up in Urban Slums: Options for Children and Youth in Developing Countries.* Presented at the School of Social Work and Social Policy, Trinity College, Dublin.

Rahman, P. 2011. *Institutions and Programs.* Orangi Pilot Project.

Rahman, P., and A. Rashid. 2006. *Some Lessons Learnt While Working with Community, Government, NGOs/CBOs and Some Axioms.* Orangi Pilot Project.

Sankhe, S., et al. 2010. *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth.* McKinsey Global Institute Report.

Sankhe, S., I. Vittal, and J. Mohan. 2011. "Urban Giants: India and China, and Their Urbanization Paths." *Environment and Urbanization ASIA 2*(1) 1–12.

Sarosa, W. 2006. "Indonesia," in B. Roberts and T. Kanaley., eds. *Urbanization and Sustainability in Asia: Case Studies of Good Practice.* Philippines: Asian Development Bank, 155–187.

Shiling, Z. 2001, March/April. "From General Urbanization to Re-urbanization—the Case of Shanghai's Sustainable Communities." *Rental Housing: NMHC Predicts Rising Demand.* Unpublished.

Tyler, S. et al. 2010. "Planning for Urban Climate Resilience: Framework and Examples from the Asian Cities Climate Change Resilience Network (ACCCRN)." *Climate Resilience in Concept and Practice Working Paper Series*. Boulder, Colorado.

UN-Habitat. 2011. *Global Report on Human Settlements 2011: Cities and Climate Change*. Washington, DC: Earthscan.

UN-Habitat. 2010. *The State of Asian Cities 2010/11.* Fukuoka, Japan: Regional Office for Asia and the Pacific.

UN-Habitat. 2011. *State of the World's Cities 2010/2011: Bridging the Urban Divide.* Sterling, VA: Malta by Gutenberg Press Ltd.

VietNamNet. 2009, February 24. *Hotel Construction in Capital Park Sparks Fierce Debate*. Retrieved from http://english.vietnamnet.vn/social/2009/02/831843/.

Wells-Dang, A. 2011, March. "Inside-Outside aAdvocacy and Virtual Networks in Preserving Reunification Park." 195–236, in *Informal Pathbreakers: Civil Society Networks in China and Vietnam*, unpublished thesis presented to University of Birmingham Department of Politics & International Studies, School of Government and Society.

Williams, C. 2010. *The Road to Rio and the Right to the City*. CHF International and the Woodrow Wilson International Center for Scholars Comparative Urban Studies Project, Washington, DC. Retrieved from http://www.chfinternational .org/publications/2010-road-to-rio.pdf.

World Bank Institute. 2011. WBI Urban: *FY 11 Retrospective Review*. Available at http://www.worldbank.org/wbi/urban.

Asia-Pacific-U.S. URBAN DIALOGUE

Across the world a massive demographic shift is underway. For the first time in human history, more people now live in cities than in rural areas. In the next 20 years, the world's population will grow from 7 billion to more than 8 billion people. The urban population will grow even faster, from 3.5 billion to 5 billion. Complex demographic and economic trends are propelling people into this new urbanized world, where hundreds of cities will be built and expanded to accommodate migration and growth—particularly in Asia.

The rapid transformation of cities and towns into massive urban megaregions has created unprecedented political, economic, socio-cultural, ecological, and physical changes. National and local governments, the private sector, and civil society are facing a sense of urgency as they work to adapt, innovate, and prepare to accommodate the future billions in sustainable, efficient, and inclusive cities that can foster productivity and continued economic growth. Their achievements will largely define the 21st century.

The East-West Center's Asia-Pacific-U.S. Urban Dialogue examines the complex human costs of urbanization and innovative solutions for creating more liveable cities of the future. Since 2008, the program has been bringing together small, diverse groups of city leaders, policymakers, urban planners, civil society and business leaders, experts and scholars, from across Asia and the United States to share their ideas, experiences, and strategic visions. Through informal, roundtable discussions that encourage lively and frank peer-to-peer exchanges, participants come away with a deeper and common understanding of the urban challenges faced across Asia and in the West and ways to manage the urban transition.

The East-West Center promotes better relations and understanding among the people and nations of the United States, Asia, and the Pacific through cooperative study, research, and dialogue. Established by the United States Congress in 1960, the Center serves as a resource for information and analysis on critical issues of common concern, bringing people together to exchange views, build expertise, and develop policy options.

The Center's 21-acre Honolulu campus, adjacent to the University of Hawai'i at Mānoa, is located midway between Asia and the United States mainland and features research, residential, and international conference facilities.

EastWestCenter.org/urbandialogue

1601 East-West Road, Honolulu, Hawai'i 96848-1601 USA
Seminars@EastWestCenter.org

EAST-WEST CENTER
COLLABORATION • EXPERTISE • LEADERSHIP