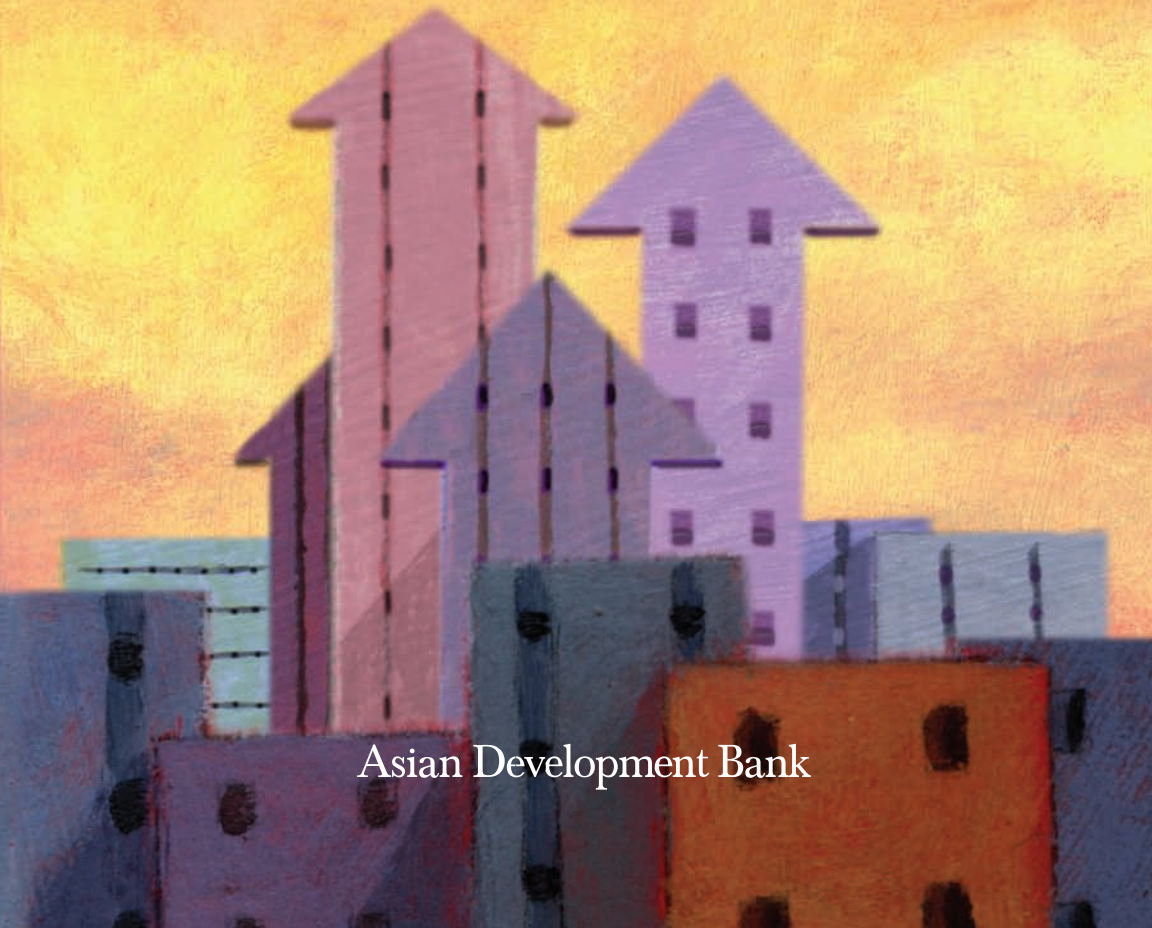
ADB

City Cluster Development

Toward an Urban-Led Development Strategy for Asia



Asian Development Bank

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Toward an Urban-Led Development Strategy for Asia

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Printed in the Philippines.

Publication Stock No. BBK123508
ISBN 978-971-561-697-3

Cataloging-In-Publication Data

Asian Development Bank.

City cluster development: toward an urban-led development strategy for Asia.
Mandaluyong City, Phil.: Asian Development Bank, 2008.

1. Urban development. 2. City-cluster development. 3. Asia.
I. Asian Development Bank.

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Foreword

When the Asian Development Bank (ADB) was established in the 1960s, only 20% of Asia's population lived in cities. After four decades, this share has doubled, more cities and towns have agglomerated, and the figure has risen quickly. Urbanization will increase from 38% in 2003 to 55% by 2030. Urbanizing Asia in the new millennium takes different patterns from the conventional urban development theories projected. There is growing recognition that the urban–rural dichotomy deeply ingrained in planning systems is inadequate for dealing with Asia's urbanization patterns. Considering that urban centers are hubs for economic growth and service centers for surrounding areas, and that almost all infrastructure lies within or is linked, sustainable urban development and environment management of urban regions will become a major challenge in years to come. Urbanizing Asia in the 21st century requires a fresh look at urban development. ADB has a role to play in this area.

To increase effectiveness in pursuing inclusive growth under ADB's Long-Term Strategic Framework 2020, the urban community of practice in ADB views that urban development activities should also include more rigorous knowledge sharing with developing member countries by disseminating good practices and innovative development tools and approaches. In this regard, the urban community of practice of ADB initiates the *Urban Development Series* to spearhead knowledge contribution toward the challenging urbanization contexts of Asia and the Pacific. This book is the first of such a series.

We hope this series will encourage discussion on the sustainable development of Asian cities, and help develop forward-looking urban policies and practices to manage the challenges ahead.

Hun Kim
Chair, Urban Community of Practice
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Acknowledgments

We gratefully acknowledge the assistance of the following individuals in preparing this City Cluster Development Study. From the World Bank: Emmanuel Jimenez, Larry Hannah, and Julie Viloria. In India: Vinod Tewari of The Energy and Resources Institute, New Delhi; A. Bandhopadhyay, commissioner, Kolkata Municipal Corporation; Mahesh Hiremath, chief engineer, KUIDFC, Government of Karnataka; and Roopa Purushothaman, Future Capital Research, Mumbai. We also thank the following peer reviewers from the Asian Development Bank staff—Florian Steinberg, Mike Lindfield, and Sekhar Bonu—who carefully read the manuscripts and provided valuable comments. Manuscript editing was done by Caroline Herrick. Ma. Priscila P. Del Rosario and Muriel Ordoñez assisted with editorial matters; Au Ables coordinated layout and graphics; and Vic Angeles assisted with production matters. Ma. Virginita A. Capulong provided overall coordination in production and publication.

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August 2008

Abbreviations

ADB	Asian Development Bank
CCD	city cluster development
CNY	yuan
GDP	gross domestic product
LGB	local government body
IT	information technology
NGO	nongovernment organization
OBA	output-based aid
PRC	People's Republic of China
PPP	private sector participation
Rs	Indian rupees
SEZ	special economic zone
SRSD	sector review and strategy development

NOTE

In this report, "$" refers to US dollars.

Executive Summary

The Asian Development Bank's (ADB's) recent adoption of a new long-term strategy (Strategy 2020) to reduce poverty in developing member countries through inclusive development and growth-promoting activities provides an excellent opportunity for achieving sustainable economic and social development through city cluster development (CCD). Cluster-based development has become an increasingly attractive topic during the last decade in the field of business competitiveness and among economic development professionals. CCD is an urban-led approach that enhances the developmental potential of cities and towns within an urban region by strategically linking their development fields through efficient provision of urban infrastructure and services and innovative financing techniques. Since ADB was launched in 1966, Asia has urbanized rapidly, and it is projected to become 55% urban by 2030. Asia already has more than half of the world's megacities, and city clusters made up of small and medium-sized cities are growing at a faster rate in Asia than elsewhere. The approach can be strategically used to spark overall economic growth with the use of modalities such as

- prioritized investments in urban infrastructure and services by governments and the private sector;
- long term comprehensive development planning that encompasses whole urban regions;
- innovative financing schemes, including public–private partnerships, domestic and foreign investments, new revenue sources through taxation reforms, levying of user charges, and new credit schemes;
- unlocking the value of land as an instrument of development and capturing increases in the value of land and property because of the improved infrastructure provision;
- establishing clustered economic development zones, high-tech enclaves, and industrial parks as integral parts of CCD schemes; and
- adopting innovative forms of urban region governance.

This flagship study traces the theoretical antecedents of CCD and analyzes its emergence in Asia. It proposes a framework for assessing the use of CCD as an urban-led strategy for economic and social development. It suggests various approaches that ADB can use to encourage CCD among its developing member countries. It also outlines a CCD approach for the development of selected urban regions in India.

Contents

Background

The urban sector community at the Asian Development Bank (ADB) has identified city cluster development (CCD) as a key strategy for urban-led development in developing member countries. CCD is a process of economic and social development through which the built-up areas of a number of human settlements become linked together functionally, structurally, and spatially to form an integrated urban region. CCD occurs when the territorial scopes of a number of adjoining cities expand until they create an urban corridor, as in the Tokyo–Nagoya–Yokohama–Osaka–Kyoto–Kobe Shinkansen, or "bullet train," conurbation in Japan. It can arise from the expansion of a megacity that envelops adjoining small and intermediate-sized cities to form a mega-urban region, as in Metro Manila, Jakarta, Delhi, or Karachi (Laquian 2005). It may take the form of a subnational city cluster made up of large and medium-sized cities in which no one city is dominant, as in the Guangzhou–Shenzhen–Hong Kong–Macau Pearl River Delta region in the People's Republic of China (Yeh et al. 2002). Some city clusters have small cities that act as service centers for small towns, as in the Naga–Legaspi–Iriga–Daet city cluster in the Philippines (Mangahas 2006). Finally, some transborder city clusters have adjoining cities located in separate nation-states that pursue common development initiatives, as in the Singapore–Johor–Riau "growth triangle" in Southeast Asia (Macleod and McGee 1996).

Finding the appropriate policy instruments (such as CCD) that deal with worsening urban problems is particularly important in Asia because the region's urban population is expected to reach 2.7 billion, or about 55% of

the world urban population, by 2030. This means that close to 1 billion people (or 48 million per year) will be added to Asia's urban population over the next two decades. More than half of the world's megacities (agglomerations with populations of 10 million or more) are in Asia. The proportion of Asian megacity residents to total urban population worldwide has risen from 5% in 1960 to 10% in 2000. In 1950, Asia had only one large city; by 2015, it is projected to have 23 cities (population size 5 million or above). In 1950, 6 million people lived in large cities; by 2015, that number is projected to increase to 160 million. The fastest urban growth rates in Asia (occurring in small cities with less than 500,000 people) are of far greater concern. In 1975, about 12% of urban populations in the region were living in small cities; this proportion increased to 19% in 2000 and is projected to increase to 22% by 2015 (United Nations 2007).[1]

In many Asian megacities, the built-up area has sprawled into surrounding regions engulfing villages, small towns, and other cities to create what have been called "extended metropolitan regions" (McGee 1995). As the outward thrust of urban agglomerations has spread, they have linked up with the territories of other cities to create city clusters. A planned development of city clusters is important because cities and towns generally function as engines of economic growth and the principal agents for socioeconomic transformation. However, empirical evidence shows that in Asia and other developing regions, the capacity of these "engines" to generate positive change is critically hampered by poor infrastructure and services, weak financial bases, and inefficient governance and urban management mechanisms. Asian urban institutions are unable to cope with the complex problems confronted by urban areas, not the least of which is that 200 million poor people already live in ADB's developing member countries (DMCs). The costs of providing urban infrastructure and services are daunting. ADB estimates its DMCs will need around $60 billion per year between 2006 and 2010 to provide adequate water supplies, sanitation, solid waste management, shelters, urban roads, and transportation systems to make cities function optimally (ADB 2006).

[1] The population figures for Asian cities available from the United Nations and other sources are based on official country definitions that are confined to formal political boundaries. There is demographic evidence, however, that these figures are significantly "undercounted" because the spread of urban development actually extends way beyond formal city boundaries.

Since the end of World War II, the rapid growth of very large cities has been a major policy concern in most Asian countries. Alarmed by the rapid growth of megacities, governments have pursued strategies to control their expansion. In the People's Republic of China (PRC) and Viet Nam, a household registration (*hukou*) system strictly controlled rural–urban migration and limited access to jobs, housing, and other benefits to bona fide urban residents. Metropolitan plans in Bangladesh, India, and Pakistan used greenbelts in an effort to confine urban growth within specified zones. Indonesia and the Philippines issued identity cards to city residents that entitled them to city services denied to migrants. The Government of the Philippines gave free bus passes to urban migrants who agreed to return to their home villages. In the PRC during the Great Proletarian Cultural Revolution (1966–1976), some urban residents were sent to rural areas "to learn from the peasants." In India, Pakistan, the Philippines, and Thailand, poor people living in inner-city slums were evicted and resettled in suburban colonies. Indonesia, Malaysia, Nepal, and Sri Lanka, opened resettlement areas and land development schemes in frontier areas to deflect migration from cities. India and the Republic of Korea created growth centers and growth poles to act as counter-magnets to large cities. In almost all Asian countries, basic urban services have been denied to residents of slum and squatter communities, the argument being that providing these services would be tantamount to rewarding them for their illegal actions. It was also believed that helping the urban poor would only encourage more people to move to urban areas, expanding slums.

Only in recent years have some Asian governments recognized the developmental role of cities, and adopted more proactive, urban-led strategies. This policy shift was based on the observation that a country's urbanization level (the proportion of the population that lives in cities and towns) is directly correlated with its level of economic growth. It is a fact that the Asian countries and regions that are the most urbanized have the highest per capita gross domestic product (GDP). In 2006, Singapore and Hong Kong, China—both 100% urban—had per capita GDPs of $38,714 and $33,471, respectively. Japan, more than 80% urban, had a per capita GDP of $33,100 (purchasing power parity). In contrast, countries with low urbanization levels, such as Bhutan (7.1%) and East Timor (7.5%), had the lowest per capita GDPs. In the light of the positive relationship between urbanization levels and economic growth, some development specialists have advocated using accelerated urbanization as an instrument for stimulating overall economic growth.

Thus, instead of passively reacting to urban development problems—increasing urban population, urban sprawl, traffic congestion, water shortages, and air and water pollution—they advocate the use of urban-led strategies to proactively spark economic and social development. For example, in the PRC, the Government has invested heavily in such urban infrastructure and services as roads and transportation, water, sewerage and sanitation, energy generation and distribution, housing, and solid waste management and concentrated these in selected coastal cities and regions, special economic zones (SEZs), export processing zones, industrial parks, and high-tech parks. In India, the Jawaharlal Nehru National Urban Renewal Mission has earmarked funds to augment urban infrastructure and services in 63 cities. The Government of India has approved the establishment of SEZs, for example, Positra in Gujarat and Nanguneri in Tamil Nadu. In Malaysia, the Government has pursued a clustered cities development strategy around Kuala Lumpur by establishing the new cities of Putrajaya and Cyberjaya. The Government of the Philippines is developing the Manila-centered region by creating a constellation of 22 chartered cities around Metro Manila and setting up two SEZs in the former US military bases of Subic Bay and Clark Air Force Base. These proactive strategies that use city clusters as the leading edge for urban-region growth constitute an important paradigm shift in the field of development.

The conceptual framework of "clusters" was initiated by M. Porter (1990). "Clusters" are groups of companies and institutions co-located in a specific geographic region and linked by interdependencies in providing a related group of products and/or services.[2] Cluster development is increasingly receiving attention globally[3] as one form of economic development strategy involving business clusters. Since it was first proposed in 1990 by M. Porter, governments and academics have come to see the concept as a means to stimulate urban and regional economic growth. Though the types of clusters can vary depending on which environment or context we are interested in for strengthening business competitiveness, this study

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[2] This definition is built-up based on M. Porter's initial work (1990), by C. Ketels, Harvard Business School: The Development of the Cluster Concept: Present Experiences and Further Development. A paper prepared for the Conference on Clusters, Duisburg, Germany, 5 December 2003.

[3] C. Ketels (2003) provides simple statistics, indicating that there are more than 300 entries for the last 3 years, and the cluster profile database at the Institute for Strategy and Competitiveness contains more than 800 entries from 52 countries.

focuses on the geophysical space of urban areas and urbanization for their competitiveness and economic development.

Positive economic impacts of agglomerated city regions and their contributions to expediting growth should be tapped as opportunities in the context of rapidly urbanizing Asian developing member countries. This flagship study is an initial, exploratory step in pursuing city cluster development (CCD) as a strategy for ADB operations. It attempts to define and analyze the CCD process and looks into the developmental potentials of CCD as it relates to Asian urbanization. Based on an analysis of how city clusters form and develop, it explores strategic directions and makes a preliminary market analysis of possible CCD initiatives in developing member countries in Asia. Other objectives of the study are

- to identify and analyze potential challenges, critical issues, and constraints that may confront CCD as a policy intervention instrument;
- to formulate a long-term strategic framework for pursuing CCD; and
- to explore, as a specific case study, the applicability of the CCD strategic framework to India.

City Cluster Development

Urban, Urbanization, and City Clusters

To better understand city cluster development (CCD), a clear distinction must be made between "urban" and "urbanization". The traditional definition of "urban" is based on the number of people living within a clearly demarcated area. Settlements with population density or size smaller than the specified cutoff number are defined as "rural" unless they have special "urban-like characteristics" or are designated urban by law. CCD goes beyond the boundary of an administrative jurisdiction, encompassing complex social, economic, and technological processes that constitute what has been called urbanization. According to Wirth, when people are concentrated in a well-defined area, significant socioeconomic changes occur. These changes include

- a shift from agricultural production to crafts, commerce, manufacturing, industry, and services;
- separation of workplace from residence;
- monetization of economic transactions;
- weakening of family and community ties; and
- a shift from sacred to secular belief systems (Wirth 1938).

The German geographer Walter Christaller theorized that there are laws that determine the number, size, distribution, and clustering or dispersal of urban settlements (Christaller 1966).

In analyzing how market functions are carried out in urban settlements, he proposed that people are willing to travel only short distances to get certain "lower order" goods and services (groceries from corner stores) while to obtain "higher order" goods (large appliances from specialty stores) they are willing to go farther. The influence of these consumer preferences on people's behavior results in a system of urban centers of various sizes. Larger settlements (big cities) offer a greater variety of higher-order goods and services. There are fewer such large settlements, and the larger they are, the greater is the tendency for them to be spread farther apart. Smaller settlements (villages and towns) are more numerous, offer mainly lower-order goods, and tend to be clustered more closely together. Other things being equal, the emergence of "central places" results in the clustering of a hierarchy of urban settlements. Of course, in actual practice, the configuration of urban settlements in a cluster depends on local factors, including topography, climate, available transport modes, technological facilities, and the personal preferences of consumers.

A number of economists and geographers have analyzed how specific types of industries tend to cluster together to achieve maximum competitiveness (Audretsch and Feldman 1996, Held 1996, Lindfield 1998, Porter 1990, Roberts 1998). Cluster analysis has shown that some industries (such as car assembly plants) form vertical and horizontal linkages with other industries that supply their inputs or market and sell their products. What has been less understood in cluster analysis, however, has been how urban infrastructure and services can be linked to industry clusters to create productive nodes in urban areas (Roberts 1997, Roberts and Lindfield 2000). In the past, enterprises tended to aggregate in development nodes that were in turn linked to other nodes to form easily identifiable clusters. In recent years, however, most industries linked to rapid urbanization are influenced by global forces that favor specialization and depend on widely dispersed networks rather than on linear processes like supply chains. One challenge in the use of city cluster development as a developmental policy tool, therefore, is to see how cluster analysis that is focused on industries can be linked to infrastructure provision to enhance the development of whole urban regions.

In urban and regional planning, the emergence of city clusters is linked to the concept of an "urban field," which is composed of the economic and social influences emanating from a particular city. As described by John Friedmann (1992).

> ….urban fields typically extend outward from the city core to a distance of more than 100 km; they include the city's airport, new industrial estates, watersheds, recreation areas, water and sewerage treatment facilities, intensive vegetable gardens, outlying new urban districts, already existing smaller cities, power plants, petroleum refineries, and so forth, all of which are essential to the city's smooth functioning. City regions on this scale can now have millions of inhabitants, some of them rivaling medium-sized countries. This space of functional/economic relations may fall entirely within a single political/administrative space…More likely, however, it will cut across and overlap with a number of…political administrative spaces of cities, counties, districts, towns, provinces, etc.

T.G. McGee (1995), noting the unique features of Asian urban agglomerations, has coined the term *desakota* development to describe their growth, combining the Bahasa terms *desa* (village) and *kota* (city) to describe their mixed rural–urban characteristics. He has observed that these urban regions tended to

> ….produce an amorphous and amoeba-like spatial form with no set boundaries or geographic extent…their radii sometimes stretching 75 to 100 km from the urban core. The entire territory—comprising the central city, the developments within the transportation corridors, the satellite towns and other projects in the peri-urban fringe—is emerging as a single, economically integrated "mega-urban region" or "extended metropolitan area."

Linking urban development to globalization, Saskia Sassen (1991) has observed that traditional studies of urban systems usually take the nation-state as the unit of analysis. However, she argues that with the emergence of very large "global cities" like London, New York, and Tokyo, a "globally networked urban system" has become a more significant economic and social reality. These very large global cities serve as major centers of capital, technological innovation, professional and management expertise, and communications. They also become centers for foreign firms operating in far-flung international markets. They provide complex producer services and perform a multiplicity of functions. Despite their global significance, however, the provision of infrastructure and services in these large cities continues to be linked to clusters of human settlements in their immediate regions.

Peter Hall has noted that present-day urban systems have been profoundly affected by globalization and the widespread use of communications technology. Production has been dispersed in space, and economic activities have shifted from manufacturing and industrial sites to centers of "advanced services." These services include

- financial and business services, like banking and insurance, and commercial services, like law, accounting, advertising, and public relations;
- command and control functions carried out by governments, transnational corporations, and international organizations;
- creative and cultural industries, like the performing arts and print and electronic media; and
- tourism activities, including hotels, restaurants, and entertainment.

Hall (2003) observes that although these advanced service functions tend to disperse, they eventually aggregate in space because they are highly synergistic with each other. Interestingly, despite their heavy reliance on impersonal information technology, residents of Silicon Valley–type urban settlements require intensive face-to-face interactions. Thus, they create people-centered city clusters focused on new service functions.

At the national level, a recent comparative study of 14 Asian megacities noted that although the inner-city populations of those cities have not been growing as rapidly as in the past, the populations have actually been expanding rapidly at the edges of the megacities and taking over cities, towns, villages, and other rural settlements to form mega-urban regions (Laquian 2005). Despite the efforts of city authorities to limit urban expansion, built-up areas have continued to spread outward. In some areas, outward growth has taken the form of a "spreading pancake" pattern. In others, urban development has created string developments along arterial highways or rapid transit lines, forming a "palm and fingers" configuration. Some mega-urban regions have taken a linear form, creating an urban corridor like the one that extends between Tokyo and Osaka. Others are dominated by megacities like the Bangkok, Delhi, Jakarta, Manila, and Seoul (Figure 1).

City clusters are forming at the subnational level, for example, the Guangzhou–Shenzhen–Macau agglomeration in the People's Republic of China (PRC). Although city clusters around develop-

ment corridors and megacities are prominent in Asia, many more city clusters in the region are actually made up of cities with populations of less than 1 million. To appreciate the development potential of city clusters, it is important to go beyond the size of cities (as measured by population) and consider the relative economic function, power and influence of a city within the context of the national urban hierarchy and provincial development. The economic, political, and social characteristics of a city are important considerations in its potential for CCD. This is especially the case in Asian countries that have small populations, including the Lao People's Democratic Republic (5.7 million), Timor-Leste (952,618), Bhutan (672,425), and Brunei Darussalam (350,898), where national capitals and their adjoining towns and other settlements play a vital role in the development of the whole country.

Figure 1: Asia's Mega-Urban Regions

Source: Laquian 2005. Karachi, Delhi, Mumbai, Calcutta, Dhaka, Manila, Shanghai, Beijing, Osaka, Tokyo, Seoul, Hongkong, Bangkok, and Jakarta.

In general, most city clusters in Asia have been the products of economic and social processes that spontaneously pushed urban development outward from an urban core. Urban planning and management approaches have traditionally been reactive, respond-

ing to problems only when they arose. More recently, however, some countries have been adopting such proactive urban strategies as CCD, which are designed to drive economic growth through urbanization. An example of this approach is the "one hour development circle" plan for Chongqing, in Sichuan province. The plan encompasses 28,700 square kilometers (km^2), roughly the area of a circle the radius of which is the distance a car can travel in 1 hour from the center of the city. Within this area is the city of Chongqing as well as 23 districts that form a cluster of urban settlements around it. While the city proper of Chongqing is projected to have a population of 7.9 million by 2010, the whole city cluster is expected to have a population of 22 million by then. The plan[1] envisions that by 2015 the whole urban region will become a *xiaokang*, or "all around well-off society," with an annual income per capita of CNY77,300 (Zhao 2007).

Views on the Role of Urbanization in Development

When ADB was established in 1966, rural development was the dominant concern of policy makers. Poverty was perceived as being most acute in villages and rural areas, so programs on how to increase crop production, extend farm credit, improve agricultural marketing, and build farm-to-market roads were pursued. Most bilateral aid agencies and multilateral financial institutions concentrated assistance on developing miracle rice and hybrid corn varieties, improved irrigation systems, postharvest technology, and farm mechanization. National governments launched development programs to improve people's lives in rural areas. The tacit assumption behind these development strategies was that if people in the villages and rural areas had a good life, they would not flock to the big cities.

The flip side to those rural development strategies was a strongly held negative view of urbanization. Urbanization in Asia was called

[1] According to the plan, the zone in the core of the circle will be devoted to manufacturing and industry (Chongqing became the center of the arms industry in the PRC when the Government moved military plants to the interior so that they would be far from the more vulnerable coastal cities). The districts in the northeastern part of the circle will be developed as an ecological zone devoted to agriculture and food processing. The southeastern zone districts will be developed for ecotourism.

"pseudo-urbanization" because the growth of cities in Asia was not accompanied by advancements in manufacturing and industry as it was in Europe and North America (McGee 1967). The outward growth of big cities in Asia was called "premature suburbanization" because it was mainly a result of the spontaneous movement or forced eviction of squatters and slum dwellers to outlying areas, in contrast to the United States, where the outward growth of suburbs was a result of the upward mobility of former city dwellers (Breese 1966). The "exploding cities" in developing countries were associated with squatters and slum dwellers; environmental pollution; crime, drug addiction, and other vices; and personal and social disorganization (Wilsher and Richter 1975). In almost all Asian countries, governments used restrictive and punitive policies and programs to stop or reverse urban growth.

For a while, it looked like the anti-urban policies were working. During the late 1980s, demographers observed that the growth rates of megacities were slowing down and that many inner-city areas were losing population. The term "urbanization reversal" was coined to describe this phenomenon, and policy makers who had expressed alarm over the growing problems of megacities welcomed the demographic shift. Closer analysis of megacity growth patterns suggest, however, that although the growth rates of populations living within the formal boundaries of cities and statistically defined metropolitan areas were declining, suburban areas were continuing to grow. In fact, urban growth was engulfing rural areas and smaller urban centers and creating sprawling city clusters.

As urban settlements continued to grow in Asia and other developing regions, a shift away from the perception of cities as sources of economic and social problems started to emerge. During the early 1990s, the anti-urban bias was gradually replaced by a more positive view of cities. This shift was reflected in the 1996 *Global Report on Human Settlements,* in which it was observed that

> Urbanization has been an essential part of most nations' development towards a stronger and more stable economy. The countries in the South that urbanized most rapidly in the last 10–20 years are generally those with the most rapid economic growth. Most of the world's largest cities are in the world's largest economies, which is further evidence of this link between economic wealth and cities. Cities and towns also have important roles in social transformation. They are centers of artistic, scientific and technological innovations,

> of culture and education. The history of cities and towns is inexorably linked to that of civilization in general (UN Centre for Human Settlements [Habitat] 1996).

Some economists have explained why cities play an important role in development. Cities provide economies of scale, agglomeration, and location; they provide efficient infrastructure and services by concentrating in one place investments in transportation, communications, and power and water supplies. They attract a pool of labor that makes specialization in knowledge, skills, and management capabilities possible. They offer a large number of goods suppliers, diversified financial and commercial services, venture capital, and access to information on foreign markets and technologies. They also provide a diversified marketplace in which competition sets the optimal prices among producers and sellers (Hamer 1994).

Economists have observed that restrictive policies and programs inhibited economic development in many Asian cities. For cities to be transformed into engines of economic growth, they need adequate and assured energy supplies for industry, manufacturing, commerce, and labors. They require delivery of a reliable supply of safe water and a sewerage and drainage system to dispose of waste and gray water. Solid waste and hazardous materials have to be collected and disposed of efficiently and safely. Mobility of individuals and goods must be assured by modes of transportation that respond to the needs of all sectors of society and do not pollute the environment (Tiwari 2002). Urban residents must be able to communicate efficiently with each other and with individuals and firms in other parts of the world. They must also have access to comfortable, affordable shelter. Urbanization is a process of creating the growth engine. If essential components of an "urban engine" are not provided or not well-equipped to run efficiently, how can it spark and drive economic development?

Beneficial Aspects of Clustered Urbanization

ADB's adoption in 2007of a long-term strategy that seeks to reduce poverty through "inclusive development and growth-promoting activities" provides an excellent opportunity to make use of city cluster development as an instrument to achieve economic, social, and environmental goals. The experiences of a number of devel-

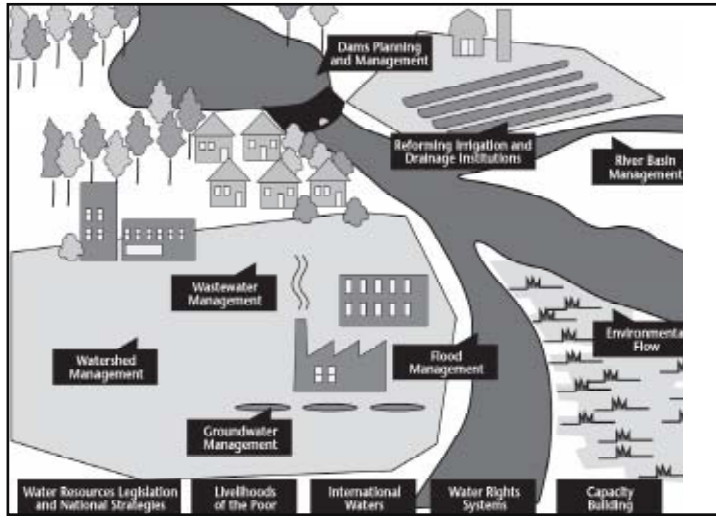
oping member countries illustrate that well-formulated and well-executed CCD can give rise to various benefits:

- urban infrastructure and services provided in an integrated manner for whole urban regions rather than for individual cities, towns, villages, and rural areas;
- availability of financial and other resources to develop whole urban regions by developing common taxation standards and operations throughout those regions, improving the credit rating of whole cities in the urban region, and setting up a more equitable tax burden among cities, towns, villages, and rural areas within the region;
- better opportunities for attracting private sector participation in area-wide development projects, especially those involving urban infrastructure and services;
- improved capacity for dealing with urban problems, such as environmental pollution that do not respect the political and administrative boundaries of individual cities, towns, villages, and rural areas; and
- inclusive development for both urban and rural areas.

Integrated approach for providing urban infrastructure and services. Basic infrastructure and services are crucial for urban development. However, there has been a tendency to set up such infrastructure and services as single-sector projects—for example, constructing a road, setting up a solid-waste disposal facility, or establishing a waterworks system for a single city. A review of experiences in a number of developing member countries has revealed that a multisectoral approach that integrates different infrastructure projects and encompasses all cities and towns in an urban cluster yields better results. This is because, by their very nature, some infrastructure and services require area-wide planning. For example, waterworks projects should take into consideration watershed management, ground water management, flood management, dam planning and management, river basin management, irrigation and drainage facilities, and environmental flow (Figure 2). Good governance of water resources requires balanced management throughout, upstream and downstream, which usually goes beyond a city's administrative boundary. Energy generation requires the construction of massive dams, which are also used for flood control and provide irrigation for agriculture. To function effectively, such projects have to be efficiently linked. Solid-waste disposal systems

can provide energy generation through the use of incinerators, or produce agricultural fertilizer through composting, if sufficient volumes can be collected from a city cluster. Such services can be provided more cost-effectively if clustered cities act together. Because urban infrastructure and services are closely linked and require heavy capital investment, providing them in an integrated manner using a CCD approach can help achieve economies of scale. Placing a number of infrastructure elements and services under one management structure can even be more efficient. A good example is the Public Utilities Board of Singapore, which develops and manages water, electricity, and gas services; it not only provides efficient services to all of Singapore but also sells 15% of its bulk water to the Malaysian state of Johor (ADB 1993).

Figure 2: An Ecosystem View of Water Management



Source: Laquian (2005).

Increasing the potentials of financial resources. In most Asian countries, local government bodies are heavily dependent on central and provincial or state governments for revenue and grants-in-aid. They have a limited tax base because they do not have complete control over developments in their jurisdictions. When local government bodies are fragmented, developers can play one against

another to gain undue advantages. In Delhi, for example, some private developers obtained tax privileges by manipulating competing local officials (Gupta 2007). When local government bodies in a city region pursue revenue-raising operations individually—each local unit having its own tax ordinances and procedures for assessment, collection, fund transmittal, and audit—they usually end up competing with each other and, as a result, get less revenue income. Small local governments with a weak tax basis tend to get lower credit ratings. Therefore, if clustered local governments set up a joint revenue-raising mechanism with common standards and operations, they will achieve higher levels of revenue by setting up a common computerized system of assessment, adopting uniform tax rates, and applying standardized collection and tax reporting systems. These approaches can also foster area-wide sharing of the tax burden and enhance equity. In North America, metropolitan governments have found that when the component local government bodies in a city cluster pool their assets and other resources, they get a much higher credit rating, which enables them to raise more capital for the construction of area-wide infrastructure. In countries where central governments are reluctant to allow local governments to borrow for infrastructure investments, either locally or in foreign markets, combining the efforts of local governments within a city cluster can give them enough political clout to be allowed to borrow with or without sovereign guarantees.

Enhancing opportunities for private sector participation. The experience in a number of developing member countries, including the PRC and Viet Nam, shows that when local government bodies in a city cluster cooperate and pursue an area-wide development strategy, they are much more successful in attracting private sector participation. For example, private sector investors consider at least a population of 200,000 in a single town before considering investing in water supply projects.[2] Both foreign and domestic investors want to be assured of the commitment and serious intent of their local counterparts, and, as shown in the cases of Shenzhen and Zhuhai in the PRC, adopting a CCD approach is an excellent assurance of official resolve. A CCD plan can also allocate specific areas for private sector participation–supported projects, as in the Sino-

[2] Bidders Survey, conducted in 2007, for the Northern Karnataka Urban Sector Investment Program Project (Loan 2312-India).

Singapore Industrial Park in Suzhou, PRC, and can guarantee the provision of area-wide infrastructure and services, as in the Singapore–Johor–Riau growth triangle. Most important, the combined financial, material, and human resources achieved by common actions of local units within a city cluster assure private sector investors that their public sector counterparts are solid.

Improving environmental protection approaches. One main problem caused by competition among local government bodies is that because they are eager to achieve development goals within their individual jurisdictions, they neglect to look after the common good. For example, they allow industries to be built along waterways without worrying about pollution in other jurisdictions downstream, as in the case of the Pasig River in Metro Manila; they build superhighways and inner-city roads with little concern for air pollution; or they allow the construction of factories and housing projects that depend on surface water and the aquifer without taking into account that such wanton use of water resources harms residents of adjoining areas, as is the case in Greater Jakarta. One major advantage of a CCD approach is that it forces local government bodies to take an area-wide look at the environmental and other impacts of specific actions. This has been reflected in the environmental programs pursued in the Dalian–Shenyang development corridor in the PRC's Liaoning province (Laquian 2006).

Fostering inclusive development. A key benefit of CCD is that it fosters inclusive development. The term "urban" often limits development focus within cities, towns, or urban areas, while ignoring adjacent surroundings (peri-urban) or rural areas. Urban and rural economies are like a symbiotic relationship, but "urban" development tends to dichotomize urban against rural areas. CCD promotes sharing development benefits with rural and peri-urban areas by including the patches of rural areas between the cities in a city cluster or an urban field. For example, most Asian cities are plagued with communities of urban poor, who are forced to live in such marginal or dangerous areas as riverbanks, steep hills, or railroad tracks. Local authorities often carry out slum eradication programs that simply raze shanties and force poor people to relocate outside the city boundaries. Even when the poor build their shanties in undesirable places, they can be arbitrarily displaced. In Metro Manila, squatter communities are periodically bulldozed and no provisions are made for their residents despite a law stating that

evicted families should be provided with housing and amenities at an alternative site. In Delhi, some entrepreneurs have displaced slum dwellers and set up plants in the areas they once occupied. This process called "degenerated peripherilization" has been criticized as detrimental to the development of the whole city, especially since the sites in question were not earmarked for industrial development in Delhi's master plan (Kundu 2007).

When properly formulated, a CCD plan can include a comprehensive program for upgrading shelters and rural communities within a whole city region. It can designate inner-city areas to be upgraded as well as sites for upgraded housing and basic infrastructure and services. It can provide jobs for the rural poor residing in between the city clusters, as well as affordable and convenient means of transportation for them. In a comprehensive review of 26 community-upgrading projects supported by ADB and the World Bank in 11 Asian countries, Basil van Horen (2007) concluded that—in addition to infrastructure provision—institutional reforms such as improvement of the regulatory framework, integration of slums into the whole urban fabric, improved access to finance and credit, more effective environmental management, and the establishment of area-wide metropolitan governance were necessary ingredients for a community-upgrading policy framework.

City Cluster Development in Asia

Although many city clusters have emerged in Asia, the process by which a number of urban centers expand and take over adjoining settlements, thereby creating an integrated urban region, is not unique to the Asian region. As early as 89 BC, the patrician citizen-soldiers of Rome conquered surrounding cities, connected them by roads, and formed the nucleus of the capital of the Roman Empire. In the 17th century, when Philip II transferred the capital of Spain from Toledo to Madrid, the new capital city engulfed nearby towns that later became cities, for example, Aranjuez, Avila, and Segovia. During the 19th century, Baron Haussmann's plan for the expansion of Paris added eight *arrondissements*, or municipal boroughs, to the city's original 12, creating city clusters around the main city. In the United States, the growth of Boston, New York, and Washington, DC, resulted in a cluster of large cities that Jean Gottman called a *megalopolis* (Gottman 1961). Gottman also identified the Great Lakes Megalopolis, which runs from Chicago to Pittsburgh and includes the cities of Buffalo, Cleveland, and Detroit, and he described another urban corridor, in the United States west, stretching from San Francisco to San Diego.

City clusters in Asia, as in other parts of the world, have been shaped by networks of infrastructure and services. In such older cities as

Beijing and Delhi, infrastructure and services were reactively provided to accommodate the expansion of built-up areas. In recent years, however, some governments have proactively built infrastructure and services ahead of the development of built-up areas, thereby influencing the size and shape of city clusters in a planned way. A few have set up special economic zones and industrial parks to lead the way in the formation of city clusters. Although the individual cities are usually bound by clearly defined territories, their economic and social influences extend to other parts of the region. As a result, planning different types of linkages has enhanced CCD. CCD has also been energized by such economic forces as the linking of industrial clusters, such as in the case of Ho Chi Minh City; enhanced production and manufacturing facilities; and expediting buying and selling, financial transfers, and capital flows, such as in the case of Hong Kong, China, and Shenzhen. A few Asian cities are now cooperating with neighboring municipalities to formulate comprehensive CCD plans for a whole urban region, but in most cases, each city or town has adopted its own master plan, zoning codes, housing and building standards, and land use regulations.

City clusters in Asia fall into at least four types in terms of geo-spatial forms: urban corridors, megacity-dominated clusters, subnational regional clusters, and transborder clusters. By its function, CCD involving industrial parks or economic special zones could be added as another typology, though largely it could fall under any of the four types in geo-spatial terms. These types of clusters are distinguished by their population, the geographic area they cover, planning and governance mechanisms, and their spheres of economic and social influence in the context of the particular regions where they are located. Although settlements within the clusters initially developed as individual cities, those cities have been drawn closer by their economic and social links. In some cases, the built-up areas of the individual cities in the cluster have merged. In other cases, agricultural land, open space, and greenfields still separate the cities from each other, but economic and social activities and comprehensive regional plans integrate them into functional clusters.

Urban Corridors

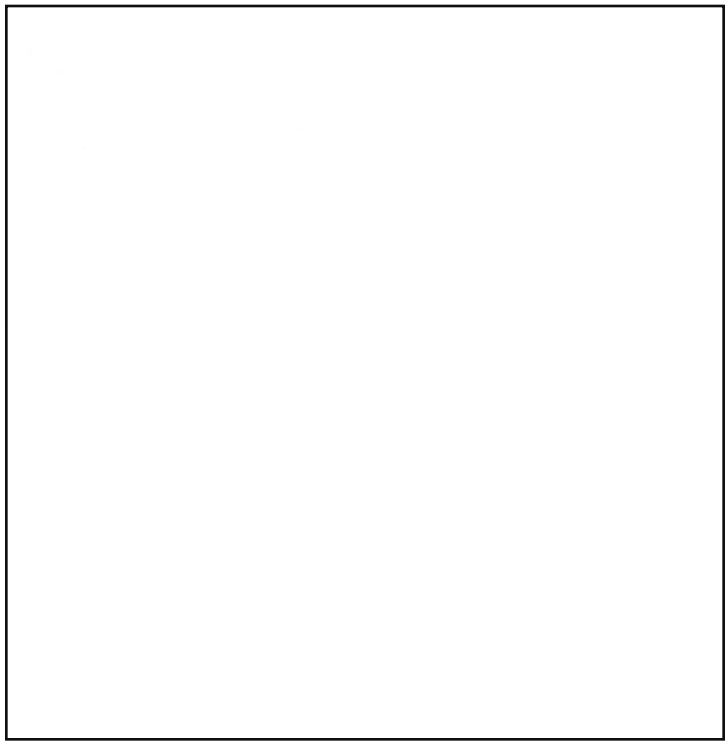
Urban corridors are made up of a number of large cities and metropolitan areas linked together by shared urban infrastructure

and services, economic interrelationships, and information networks. Within a corridor are complex economic production, distribution of goods, and financial and commercial activities. Economic relationships linking governmental and private sector enterprises with each other abound. Cities in a cluster are connected to each other, to the central city, and to urban centers in other parts of the world by information technology networks. The backbone of an urban corridor is usually a major expressway, a rail line, or a combination of the two. Examples of urban corridors include the Tokyo–Yokohama–Nagoya–Osaka–Kobe–Kyoto Shinkansen, or bullet train, corridor in Japan; the Beijing–Tianjin–Tangshan development corridor in northeast People's Republic of China; and the Mumbai–Pune development corridor in India.

Tokyo–Yokohama–Nagoya–Osaka–Kobe–Kyoto Shinkansen Corridor. The anchor of the Shinkansen corridor is the Greater Tokyo area, which, with its 34.5 million people, has been the largest metropolitan area in the world since 1965. Greater Tokyo, by itself, is a city cluster made up of 23 special wards (*ku*), 26 cities (*shi*), 5 towns (*cho*), and 8 villages (*son*), with a combined population of more than 8 million. Yokohama, 30 km from Tokyo, has a population of 3.6 million. It is a major port and commercial hub of the Greater Tokyo area, although it is an incorporated city and the capital of Kanagawa prefecture. Nagoya is a port city with a metropolitan population of 8.7 million, 2.1 million within Nagoya City proper. It is the capital of Aichi prefecture and the center of the Chubu region. Nagoya's economy is based on automobile manufacturing, spearheaded by the Toyota Motor Corporation, now the largest car manufacturer in the world. Even if only the populations of the six agglomerations on the Shinkansen line are counted, the population in the whole corridor is estimated to be 66 million. If the residents of districts, towns, and villages clustered around the metropolitan areas are included, the corridor has more than 75 million people, or about 60% of the total population of Japan. Agglomerated impact achieved through city cluster development along the whole corridor has been the main impetus for Japan's dominant economic position. Tokyo is acknowledged to be a global city, and it can be said that, with the complementary development of the other megacities, the whole Shinkansen corridor is now a global region.

Beijing–Tianjin–Tangshan Corridor. Development in northeast People's Republic of China has been fastest in the so-called

Figure 3: Tokyo–Yokohama–Nagoya–Osaka–Kobe–Kyoto Shinkansen Corridor



Source: Laquian (2005).

Jing–Jin–Tang corridor, along the expressway that connects Beijing with Tianjin and its port, Tanggu. The master plan for Beijing follows the "urban clusters" approach; it encompasses four inner-city districts, four adjacent suburban districts, two outer suburban districts, and eight counties. Beijing city proper, at one end of the corridor, has a population of 6.5 million, and another 5 million people live in 14 satellite towns and 140 nearby small towns. At the other end of the corridor is the port city of Tianjin, which has a population of 9.9 million. Between these two large cities are nine special economic zones and eight development zones. Two intermediate-sized cities, Langfang and Tangshan, are located along the expressway. The total population along the corridor is estimated to be 36 million. The corridor successfully links the trading port, special economic zones,

and the capital, and demonstrates that different economic functions of each city can achieve better synergic impact of expediting economic growth through clustered cities and towns along the corridor.

Mumbai–Pune Corridor. The Mumbai–Thane–Navi Mumbai–Khopoli–Pimpri–Pune corridor is one of the most progressive regions in India. It begins in the coastal city of Mumbai (formerly Bombay), India's largest metropolitan area, which has a population of 23.5 million. Within the Mumbai conurbation is the city of Thane, located 30 km from Mumbai. Thane is the administrative headquarters of Thane district and has a population of 1.4 million. Also within the Mumbai conurbation is the city of Navi Mumbai (New Bombay), established in 1972, which now has 1.5 million residents and is one of India's largest special economic zones. The Mumbai agglomeration is projected to be the second largest in the world by 2015, with a population of 26.2 million. About 150 km from Mumbai is the city of Pune (formerly Poona), capital of Pune district and the eighth-largest urban agglomeration in India, with a population of 4.5 million. The Pune urban area measures about 700 km^2 and consists of the Pimpri–Chinchwad Municipal Corporation and three cantonments (Khadki, Pune, and Dehu Road). Pune is a major industrial center in India and specializes in motor vehicle production (Bajaj, DaimlerChrysler and Tata Motors have manufacturing facilities there). In recent years, Pune has also developed a burgeoning software industry centered on such information technology (IT) parks as Rajiv Gandhi IT Park, Margapatta Cyber City, Marisoft IT Park, and Weikfield IT Park; the software industry benefits from the many high-level universities and technical colleges in the city region.

Megacity-Dominated Clusters

Megacity-dominated clusters have one very large city that influences developments in an entire region, and surrounding cities, towns, and villages function as mere satellites of the large city. Most of these urban clusters are found in South and Southeast Asia, where the large cities exert significant influence in not only the city region but also the whole country. Examples of megacity-dominated clusters include the National Capital Region of Delhi, the Karachi-centered mega-urban region in Pakistan, the Dhaka-centered mega-urban region in Bangladesh, the Metro Manila

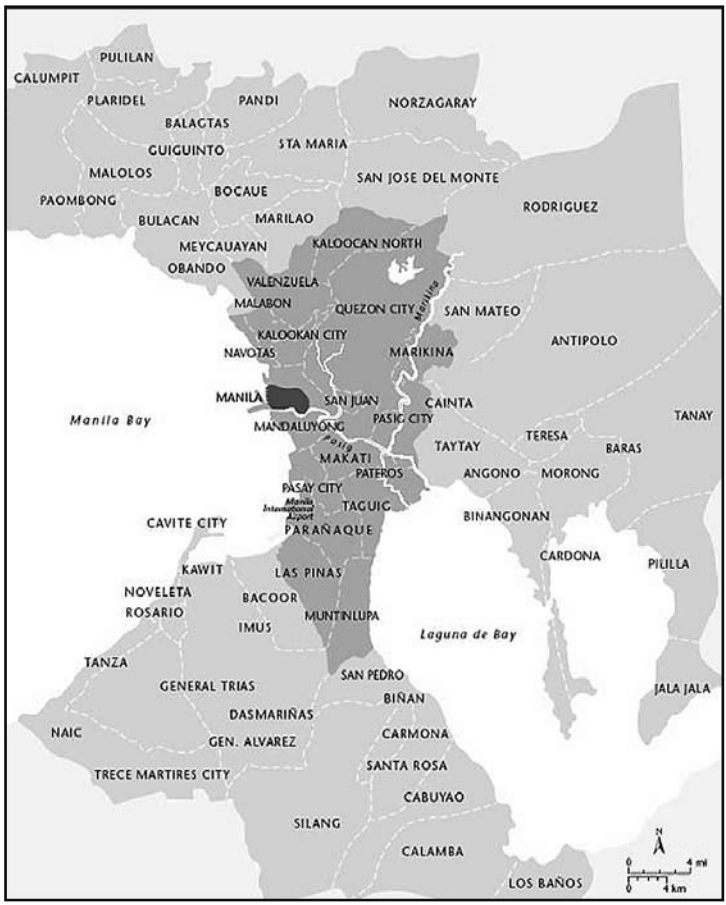
National Capital Region in the Philippines, the Bangkok–Thonburi metropolitan region in Thailand, and the Jakarta-centered Jakarta–Bogor–Tangerang–Bekasi region in Indonesia.

Greater Bangkok. Bangkok has been more successful than other Asian cities in planning and managing outward expansion. The Greater Bangkok Plan was formulated in 1960 for an estimated population of 4.5 million by 1990. The population sharply increased with the absorption of Thonburi into Greater Bangkok in 1970 and the annexation of parts of the adjoining provinces of Phra Nakorn and Thonburi in 1972. In 1980, the Bangkok Metropolitan Region was established, absorbing urbanized areas in the provinces of Nakhon Pathom Nontaburi, Pathum Thani, Samut Prakan, and Samut Sakhon. While the United Nations projects that Greater Bangkok's population will reach 9 million by 2010, Thailand's National Economic and Social Development Board has proposed an "extended Bangkok Metropolitan Region"—with a projected population of 17 million by 2010—by adding to the existing metropolitan region urbanizing sections of the provinces of Ayutthaya, Chachoengsao, Chon Buri, Rayong, and Saraburi, to the city cluster. Greater Bangkok dominates the country's economy, contributing 44% of GDP with 25% of its total population 64 million (UN 2007).

The Metro Manila National Capital Region. In 1964, the Metro Manila National Capital Region (NCR) was composed of only four cities and four towns. However, in the Philippines, city mayors and councils are vested with more powers than town mayors. Cities also generally have more income than towns, because towns have to share their tax and other revenues with provinces while chartered cities do not. While certain standards have to be met before a town can be converted into a city (for example, population, per capita annual income), granting a city charter to a town is basically a political act on the part of the Philippine Congress. Getting a city charter has become so politically attractive that at present all but 1 of the 23 local government areas within the Manila-centered NCR have become chartered cities. Despite the presence of the Metro Manila Development Authority, which deals with urban planning, traffic management, and solid waste disposal, the cities clustered in the Metro Manila NCR enjoy a great deal of autonomy, and subsequently coordination of area-wide infrastructure and services is largely ineffective. Some urban planners have suggested that the

Manila-centered region already extends to the urbanized sections of the provinces of Batangas, Cavite, Laguna, Quezon, and Rizal, and that the total population of the NCR is more than 30 million.

Figure 4: The Metro Manila National Capital Region



Source: Laquian (2005)

Greater Jakarta. The Greater Jakarta mega-urban region is made up of entities from three jurisdictional levels: the Special Region of the National Capital of Jakarta, locally referred to as Daerah Khusus Ibukota, or DKI Jakarta, which has the status of a

province in the Indonesian system; the municipalities (*kotamadya*) of Bogor and Tangerang; and the districts or regencies (*kabupaten*) of Bogor, Tangerang, and Bekasi. The municipalities and districts that cluster around DKI Jakarta belong to the province of West Java, which has been resisting the expansion of DKI into its territory. The province has pursued its own urban development plans by approving the establishment of special economic zones and industrial estates on the outskirts of DKI. Efforts to rationally plan the spread of the settlements in the city cluster generally referred to as the Jakarta–Bogor–Tangerang–Bekasi region have been made, but political and administrative fragmentations have frustrated them. Meanwhile, the "field of influence" of the Greater Jakarta mega-urban region is far beyond the geophysical sphere and is believed to have reached 200 km away to the city of Bandung (Dharmapatni and Firman 1995).

Delhi National Capital Region. The Delhi National Capital Region (NCR) covers 33,578 km^2, which includes the Union Territory of Delhi (1,483 km^2); the Haryana subregion (13,413 km^2), which comprises Faridabad, Gurgaon, Jhajjar, Mewat, Panipat Rewari, Rohtak, and Sonepat districts; the Rajasthan subregion (7,829 km^2), which is made up of the whole of Alwar district; and the Uttar Pradesh subregion (10,853 km^2), which comprises Baghpat, Bulandshahr, Ghaziabad, Gautam Budh Nagar, and Meerut districts. While the United Nations estimated the population of the Delhi NCR at 15.0 million in 2005, the regional plan for the whole region set the 2001 population at 37.1 million, composed of 13.8 million for the Union Territory, 8.6 for the Haryana subregion, 2.9 for the Rajasthan subregion, and 11.5 for the Rajasthan subregion. Within the NCR are 3 metropolitan cities (Delhi, Faridabad, and Meerut); 14 districts; 66 *tehsils* (towns; 108 other urban settlements with populations ranging from 5,000 to 100,000; and 7,528 rural settlements (National Capital Region Planning Board, Delhi 2005).

Greater Karachi. Karachi is the largest city in Pakistan and the capital of Sindh province. It was the national capital until 1958, when the Government moved the capital to Rawalpindi, and then moved the capital to Islamabad in 1960. Greater Karachi covers 3,530 km^2 and has a population of 12.3 million, which is projected to increase to 16.5 million by 2010. In 1976, Karachi had five subdivisions. In 2000, the Government of Pakistan abolished the subdivision and merged the five into the Karachi district. At present, Karachi has a three-tier federated system of governance composed of the city district government, town municipal administrations, and union

council administrations. The Karachi city district is divided into 18 towns, which are each governed by an elected municipal administration. The towns, in turn, are divided into 178 union councils. The mayor (*nazim*) and council system in Pakistan makes for extreme fragmentation of the decision-making process. Despite security and political problems, Karachi continues to be the financial center of Pakistan; about 60% of national revenue is generated in Karachi. Clustered around the city are several large industrial zones. Future planned city cluster development in Greater Karachi may be facilitated by the Government's ownership of about 1,600 km^2 of the metropolitan area's 1,722 km^2 (93%) of land.

Greater Dhaka. Dhaka, the capital of Bangladesh, covers 816 km^2; in 2005, its population was 15.3 million, and its population is projected to reach 18.3 million by 2010 and 21.1 million by 2015. Dhaka city proper, which is governed by the Dhaka City Corporation, is divided into 135 wards. Greater Dhaka includes the central city, 7 principal and 14 auxiliary *thanas* (subdistricts), and covers 1,463 km^2. Urban and regional planning in Greater Dhaka is carried out by Rajdhani Unnayan Kartripakkyya (commonly referred to as RAJUK), or Capital Development Authority. However, governance and management of urban functions are divided among at least 41 government agencies and units, making coordinated CCD difficult.

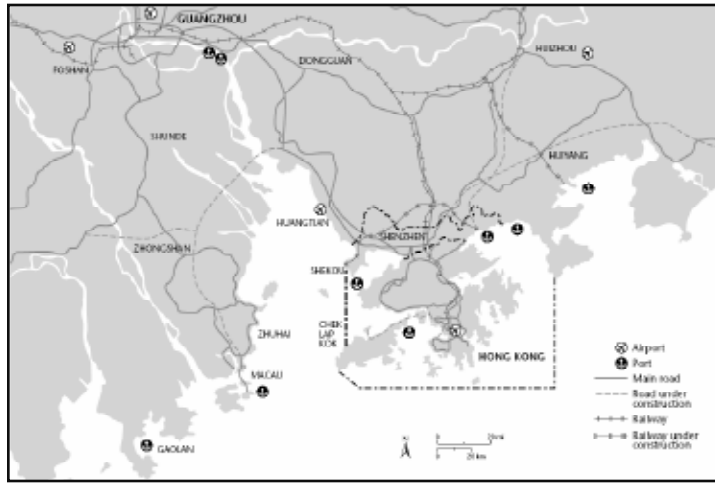
Subnational City Clusters

Subnational city clusters are made up of large, medium-sized, and small cities and towns that are functionally interlinked. However, no one city dominates the whole region, and economic and social interrelationships may be truncated by the autonomous nature of each city. Examples of subnational clusters include the Guangzhou–Shenzhen–Hong Kong–Macau region in the Pearl River Delta of the PRC and the Naga City–Legaspi–Iriga city cluster in the Philippines.

Pearl River Delta cluster. The oldest cities in the Pearl River Delta cluster are Guangzhou (formerly Canton); Macau; and Hong Kong, China, although Hong Kong, China, and Macau, as special administrative regions, did not become part of the PRC until 1997 and 2000, respectively. In 1979, the PRC set up Shenzhen and Zhuhai as special economic zones to accelerate economic growth in the region. The strategic locations of Shenzhen, which is only

20 km from Hong Kong, China, and Zhuhai, which is next to Macau, were significant factors in their rapid development. By 2007, the population of Shenzhen had grown to almost 10 million, outstripping both Guangzhou, with 7 million, and Hong Kong, China, with 7.5 million. At present, the Pearl River Delta cluster has three levels of cities: the three large cities of Guangzhou; Shenzhen; and Hong Kong, China; the eight medium-sized cities of Macau, Zhuhai, Foshan, Jiangmen, Zhongshan, Dongguan, Huizhou, and Zhaoqing; and 22 small, county-level cities, as well as some 300 towns (Yeh et al. 2002).

Figure 5: The Pearl River Delta City Cluster



Source: Laquian (2005)

The Pearl River Delta cluster grew fast as a result of the provision of modern infrastructure and services that link the cities together through a regional development planning with a longer-term perspective. Within the Pearl River Delta region can be found eight airports, four of which can handle international flights. In addition to the port of Hong Kong, China, the region also has three major seaports and 70 smaller ports along the seacoast and the Pearl River. The region is served by the Beijing–Guangzhou railway and the Beijing–Kowloon railway. Expressways and ultramodern telecommunications networks crisscross the cluster. The Pearl River Delta region is, therefore, a city cluster with many hubs. One study

projects that by 2022, the cluster will have become a "South China Megalopolis" with a population of 51 million and a contribution to GDP of $1.1 trillion (Enright et al. 2003).

The Naga–Legaspi–Iriga Urban Cluster. The Naga–Legaspi–Iriga urban cluster is in the Bicol region, one of the poorest areas in the Philippines. Since the election of a 29-year-old mayor in Naga in 1988, Naga's economy has surged ahead at the growth rate of 6.5% per year. Naga city is 377 km south of Manila and has a population of 137,800. It is the core of Metro Naga, composed of 12 municipalities and Naga city. Although Metro Naga started as a voluntary federation, its metropolitan structure was granted legal status in 1993. The Metro Naga Development Council, which is composed of the mayors in the metropolitan area, has formulated a comprehensive development plan for the entire city cluster, and has set up an executive office, headed by a director, to coordinate development activities. Observing visible economic growth impacts of the cluster development approach, other adjacent local governments joined in recent years. Led by the council, local governments in the Bicol region have pooled resources to set up an economic development fund to pursue projects like small-scale waterworks and farm-to-market roads. They have also invited the private sector to invest in such infrastructure projects as markets and shopping malls. The biggest challenge to the council is that it is an island of progress in a sea of want. The leaders of the cities within the region, however, hope to see the city cluster become the engine that will spur the development of the whole Bicol region (Mangahas 2006).

Transborder City Clusters

Transborder city clusters are made up of urban settlements located in different nation-states and, despite the existence of different political systems and legal regimes, pursue common development initiatives. The best example of a transborder city cluster is the Singapore–Johor–Riau "growth triangle" formed in the early 1980s by the governments of Indonesia, Malaysia, and Singapore. The core of the development scheme is the island nation of Singapore, which has a population of 4.6 million and occupies an area of 704 km^2. Although Singapore is the smallest country in Southeast Asia, it has a per capita GDP of $37,489 (purchasing power parity) and ranks 25th among the world's countries in the human development index.

Located just across the causeway from Singapore is Johor Bahru, the capital of the Malaysian state of Johor. The state of Johor has been critical to Singapore's development because it supplies practically all of the water for the nation-state, as well as many workers. When Singapore's economy expanded after it became independent from the Federation of Malaya in 1965, it did not take long before Malaysia and Singapore started to cooperate with one another for mutual benefit. During the 1980s, the governments of Singapore and Malaysia signed an agreement to create a growth triangle that included not only Singapore and Johor but also the Indonesian province of Riau. For most urban settlements in the cluster, the growth triangle scheme created many advantages, among them

- lower transportation and other economic transaction costs; more efficient production and distribution networks;
- access to investment capital from Singapore and land and other natural resources in Johor and Riau;
- more productive specialization in economic activities, economies of scale, and enlarged markets;
- improved urban infrastructure and information networks;
- job creation in all the urban settlements in the cluster; and
- improved access to foreign direct investment.

Figure 6: The Singapore–Johor–Riau Growth Triangle

Source: Laquian (2005)

The growth triangle, in effect, created an extended metropolitan region despite the urban development areas that made up the cluster being located in three different countries (Macleod and McGee 1996).

Special Economic Zones and Other Enclaves by Distinctive Functions

The main ideas that eventually led to the establishment of special economic zones (SEZs) evolved from such early ventures as the Shannon Export Free Zone in Ireland, which was established in 1959. Basically, an SEZ is a production enclave in which foreign and domestic investors are allowed to set up enterprises under favorable terms and generous incentives, provided they sell their enterprises' products in international markets. The investors bring in capital, materials not available locally, and technological expertise. The SEZ provides land, infrastructure and services, labor, management of, and logistical facilities. In the PRC, an SEZ is defined as "a small area demarcated within a country's territory and suitably insulated for adopting special and flexible policies to attract and encourage foreign investments in industrial and other economic activities" (Yee 1992). In India, SEZs are regarded as "duty-free enclaves deemed as foreign territories for the purpose of trade operations, duties and tariffs." They are considered second-generation reforms and a continuation of such earlier governmental initiatives as export-processing zones, export-oriented units, technology parks, and free trade zones (India SEZ 2007).

Thus, a number of Asian countries have used them—along with export-processing zones, bonded areas, industrial parks, and high-tech parks—as instruments for pursuing urban-led development. Typically, SEZs and other development enclaves are on the outskirts of large cities. For example, in the PRC, the Shenzhen SEZ was 20 km north of Hong Kong, China, to attract investments from that haven of free enterprise. The dramatic growth of Shenzhen, from a fishing village of 30,000 to a city of more than 10 million within 27 years, has become a cluster of urban districts in the Pearl River Delta that includes Baoan, Futian, Longgang, Luohu, Nanshan, and Yantian. Although smaller than Shenzhen, the Zhuhai SEZ has been expanding rapidly, energized by its proximity to Macau. Similarly, the siting of an industrial park in the ancient city of Suzhou, which is about 80 km from Shanghai, has sparked the growth of a

city cluster around the ancient city, Suzhou, involving Changshu, Kunshan, Taicang, Wujiang, and Zhangjiagang, as well as the districts of Canglang, Jinchang, Pingjiang, Wuzhong and Xiangcheng.

Figure 7: The Development Regions in the PRC

Source: Laquian (2005)

In India, where at least 404 SEZs had been formally approved by the end of 2007, entrepreneurs are offered attractive fiscal and other incentives to invest in these facilities. Thus, investors in SEZs benefit from

- a 100% exemption from income taxes for 5 years, and a 2% tax exemption an additional 2 years thereafter;
- exemption from customs duties on the importation of capital goods, raw materials, and consumables;
- exemption from central excise taxes on goods procured from domestic markets;
- exemption from licensing requirements for items used by small-scale industries; and
- freedom to repatriate profits without any dividend-balancing requirement.

Aside from these incentives, the Government of India offers a full range of banking, insurance, storage, warehousing, and other logistical services. A large, well-trained, skilled workforce capable of managing modern enterprises is required. Interestingly, unlike other countries, where SEZs and other development schemes are mainly government run, India relies more heavily on joint ventures and public–private partnership arrangements.

In the Philippines are proposals to extend the planning of the Manila-centered region to include developments in the SEZs set up in the former Subic Bay US naval base in Zambales province and the former Clark Air Force base in Pampanga province. Growth in the Subic SEZ has spread to the adjacent city of Olongapo, and the Clark SEZ has contributed to the rapid growth of nearby cities like Angeles and San Fernando. The construction of an expressway linking the Subic and Clark SEZs is encouraging the growth of towns strung along it. Plans are being developed to make Clark the main international airport of the national capital region, and a rail-based transport system and limited-access expressways are being developed to connect it to Metro Manila. In addition to the Clark and Subic SEZs, the Government has also set up an export-processing zone in Mariveles, Bataan province, and an industrial park in Rosario, Cavite province. All these development enclaves have contributed to the economic expansion of the Manila-centered urban cluster. Because of their proactive nature, SEZs are excellent instruments for pursuing CCD.

A Strategic Framework for City Cluster Development

In the light of CCD's benefits, a strategic framework can be useful to guide officials in deciding whether or not to pursue CCD. The framework should answer some basic questions:

- What key factors should be assessed in identifying CCD potentials?
- What are the barriers to effective and efficient CCD?
- How can the barriers be mitigated so that CCD can be accelerated?
- What strategies can achieve effective and efficient CCD?

Experiences in Asia show that at least eight key factors need to be assessed to determine whether or not to use CCD as an instrument for urban-led, inclusive economic and social development:

- institutional and governance mechanisms;
- demographic, resources, and spatial factors;
- development planning coordination over time and jurisdictions;
- use of land resources and land tenure;

- economic growth potential and trade functions;
- taxation, intergovernmental transfers, and fiscal discipline;
- infrastructure and information networks; and
- role of private sector participation.

Most of these factors are multifaceted and closely linked with each other. Therefore, efforts to achieve socioeconomic development through CCD require a thorough understanding of how various economic, social, institutional, and technological resources can be mobilized cost-effectively. In general, an effective CCD plan is one in which the development objectives are achieved in compliance with both quantitative and qualitative performance standards. In contrast, an efficient CCD plan is one in which the development objectives are achieved with the optimal allocation of various material, human, and technological inputs. A schematic representation of a CCD framework is shown in the table.

Barriers to City Cluster Development and Measures to Mitigate Them

Institutional and Governance Mechanisms

One barrier to CCD is a mind-set among some public officials that associates urban growth with problems such as slums and squatters, lack of urban infrastructure and services, traffic jams, environmental pollution, and crime and violence. Another barrier is officials who are ideologically committed to local autonomy and therefore find it difficult to pursue CCD. Administrative fragmentation at the central and provincial or state levels also hinders interagency cooperation and coordination. The activities and advocates of civil society are often viewed negatively by officials, especially when those advocates demand governance reforms and campaign against graft and corruption.

Legal and regulatory measures and judicial precedents can also be barriers to CCD, as seen in cases where individual local government bodies enact ordinances, zoning codes, and land use regulations that differ vastly from each other, thus creating jurisdictional conflicts. Another barrier is extreme political partisanship among city authorities, especially if that partisanship is based on ethnic identity, religious affiliation, or ideological differences. Experiences in a number of Asian countries have shown that when local government

A Strategic Framework for Assessing Growth Potentials of City Cluster Development

Assess Key Factors	Analyze Barriers/Weaknesses	Step Up Mitigations as Development Opportunities	Strategize CCD
1. Institutional, legal and governance mechanisms; e.g., cross-border coordination	• Autonomous local units may resist CCD • Central and provincial or state governments may not favor CCD or anti-urban mind-set • Decentralization programs and local autonomy create fragmentation among local government bodies in city clusters • Failure to recognize unique conditions in a country may limit the usefulness of CCD	• Provide more information to local government officials about merits of CCD • Local government reforms • Coordinate through a development council • Allow strong political leadership and entrepreneurial abilities for more effective and efficient governance • Blind copying specific CCD initiatives without proper regard for unique conditions in a particular country or area should be avoided	• Use region-wide planning to usher in region-wide governance • Set up metropolitan authorities to improve area-wide development efforts • Use development plans to encourage unified governance structures • Allow participation of civil society in governance • Undertake selected observation and study tours to countries that have used CCD successfully

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Assess Key Factors	Analyze Barriers/Weaknesses	Step Up Mitigations as Development Opportunities	Strategize CCD
2. Demographics, resources, and spatial aspects for inclusive development: i.e., integration of rural and urban economy, and inclusion of urban or rural poor	• Minimal population size to form an agglomerated pattern of city regions • Geographic dispersal of inhabitants • Conventional perception on rural–urban dichotomy deters CCD inclusively • "Not-in-my-backyard" attitude hinders inclusive development efforts • Political conflicts based on local partisanship, ethnic affiliations, and ideological leanings threaten social sustainability	• Accommodate more rural-to-urban migrants • Harness civil society to strengthen inclusive development • Strengthen economic links between rural and urban areas • Improve the flows of goods and services both ways • Strengthen unified city cluster–wide efforts to reduce poverty through political will and availability of financial resources	• Encourage compact settlement patterns within 80 km radius from the core • Do not dichotomize urban and rural, but include both urban poor and underprivileged groups in area-wide development • Promote industrializing agroprocessing business and enterprises • Civil society groups can strengthen public participation in deciding on developing city clusters

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Assess Key Factors	Analyze Barriers/Weaknesses	Step Up Mitigations as Development Opportunities	Strategize CCD
3. Development planning issues	• Planners use mainly physical planning methods and resist city-region planning • Weak planning capacity or lack of data resulting in plans that cannot be implemented • Zoning codes and standards too focused on local issues	• Support more data gathering and dissemination • Train more planners • Use Asian Development Bank technical assistance to help use comprehensive plans in city clusters	• Adopt an area-wide approach suitable to usher in governance reforms • Formulate plans and adopt comprehensive city cluster plans for a longer-term perspective • Formulate a comprehensive plan in a participative manner and consider inputs from all stakeholders
4. Land resources and land tenure	• Strong adherence to private property • Private ownership of land makes it difficult to leverage land for CCD financing • People's resistance to "land grabbing" for project use • Failure to repeal legislation on land issues will delay CCD programs	• Capture tax revenue from increased values of land and property resulting from infrastructure provision • Implement tax reforms to capture economic value of land and land tenure • Use land readjustment • Use land banking schemes	• Use land readjustment mechanisms to unlock the economic value of land resources and to increase property values through improved urban infrastructure provision • Revise tax laws to facilitate use of land into a development financing resource by unlocking its location "use value"

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Assess Key Factors	Analyze Barriers/Weaknesses	Step Up Mitigations as Development Opportunities	Strategize CCD
5. Economic growth potentials and trade functions	• Low level of economic productivity • Lack of industrial–commercial activities • Economic growth potentials and impact limited to a confined area	• Tap intellectual capitals and resources from existing academic and research institutions as a stepping-board • Locate SEZs near a bigger city to tap into spillover growth benefits • Promote economic sustainability by formulating and implementing a city cluster local economic development strategy	• Concentrate infrastructure investments in one area to attract more enterprises • Attract foreign and domestic investors by offering tax incentives and other benefits in a city cluster or SEZs • Strengthen urban-led development strategy
6. Taxation, fiscal issues	• Low revenue-generating capacity of local government bodies • Dependence on higher-level fund transfers and grants-in-aid • Credit ratings are low and do not support capital improvement • Difficulties in standardizing tax rates among local units in cluster • Local units resist allocation of funds to metropolitan or regional governance structure	• Install area-wide tax reforms to increase efficiency of tax collection • Train local officials in revenue-raising techniques, budgeting, and fiscal accountability, to attract PSP in financing urban infrastructure and services • Make financial burden more equitable by sharing local resources	• Improve tax collection machinery • Invite more PSP investments • Set up mechanisms to enhance transparency and accountability • Pull the resources within the cluster by consolidating a city cluster approach, for a higher credit rating

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Assess Key Factors	Analyze Barriers/Weaknesses	Step Up Mitigations as Development Opportunities	Strategize CCD
7. Infrastructure and informational connectivity	• Poor urban infrastructure and services • Lack of coordination in infrastructure provision • Difficulties in coordinating services among local units pursuing selfish goals	• Tap central and provincial or state governments to provide more infrastructure	• Encourage PSP for infrastructure investments; • Set up area-wide transportation systems and regional water and sanitation systems that limit pollution
8. Private sector participation	• Low level of PSP interests • Lack of mechanisms for PSP • Lack of transparency and accountability • Widespread rent seeking • Competition among local units to attract investors can result in non-observance of environmental laws and regulation	• Facilitate PSP by streamlining procedures • Tap banks and other financial institutions for investments • Limit environmental pollution by developing cluster-wide environmental standards supported by strong enforcement	• Provide mechanisms for more PSP in the financing of urban infrastructure and services • Set up SEZs and industrial parks

CCD = city cluster development, PSP = private sector participation, SEZ = special economic zone.

Source: K. Choe and A. Laquian. 2008. City Cluster Development: Toward an Urban-led Development Strategy for Asia. *ADB Urban Development Series*. September.

bodies view each other with suspicion and cynicism, it is extremely difficult to set up CCD initiatives such as establishing regional agencies to manage urban services (e.g., regional waterworks or energy systems), working out a common system of taxation, or developing systems to improve the credit rating of cities within a cluster.

Anti-urban bias among local officials can be mitigated by providing them with information that shows the positive correlation between higher levels of urbanization and higher levels of economic growth. CCD supporters may also share with officials key research results that indicate successful cases in which the urban and rural sectors are closely linked to achieve area-wide development. Financial institutions like ADB can support observation and study tours and workshops to countries that have successfully pursued urban-led development strategies to show the merits of CCD. They can also help generate and disseminate information by supporting research projects, monitoring and evaluating urban projects and programs, publishing the results of such efforts, and making them available to staff members, developing member country officials, and the public.

Initiating institutional and governance reforms in cities where local officials are strongly committed to local autonomy is a difficult task. However, one possible strategy is to carry out a comprehensive development planning exercise that will show how overall regional development efforts are closely interlinked. The exercise might also highlight the positive outputs that can be attained by intergovernmental cooperation, which can eventually enhance CCD.

Demographics, Resources, and Spatial Factors

The size of the population in urban settlements that form a city cluster is an important factor that determines if a CCD approach is feasible or not. Obviously, a megacity with a population of more than 10 million will require far greater resources to develop than a small city with a population to 100,000 surrounded by villages. The extent of the geographical area encompassed by the settlements within a city cluster will also have a direct effect on development costs. If the distance between the various settlements within a city cluster is too great, it can serve as a barrier to CCD (some planners recommend a "1-hour travel perimeter, or a concentric zone no greater than 80 km radius" to encompass an ideal CCD territory). Conversely, a sparsely populated area that does not have significant urban nodes will be more difficult to develop using CCD than an

area that possesses a number of high-density urban centers in which industrial, commercial, and residential clusters already exist.

High levels of urban poverty, as reflected by a significant proportion of the population living in slums and squatter communities, can inhibit CCD. This is especially the case when low-income people occupy public or private land that is needed for urban infrastructure and services. High rates of rural–urban migration that swell the numbers of the urban poor can also be a problem. However, experience in the PRC and Viet Nam has shown that punitive measures to prevent or control migration are not effective in the long run. More "accommodationist policies"—for example, providing urban services in low-income areas, building affordable housing, and conducting skills development and training—can better serve as mitigating measures. Providing urban infrastructure that attracts enterprises to invest in the city cluster is also an excellent strategy for expediting growth and development.

Development Planning Coordination

Most cities in Asia have master plans, but despite the acknowledged usefulness of planning to achieve CCD, a number of barriers deter its use. Some barriers are internal to city systems; others are linked to the external environment. Foremost among the internal factors is the shortage of trained planners in Asia. Most Asian planners have backgrounds in architecture, engineering, or surveying, and view the city as being made up of objects to be designed and built from a narrow technical perspective. Lacking an understanding of the economic forces and sociocultural factors at work in CCD, they find it difficult to identify the complex linkages that make up the whole city region and are unable to formulate good comprehensive development plans.

Another barrier to CCD is the lack of data on which to base comprehensive development plans. Basic population data, for example, are based on periodic censuses, but in rapidly growing cities, the census information is often out of date. Census data are collected using formal political boundaries as enumeration units, but city dwellers can be undercounted because the built-up areas of urban settlements often extend beyond their formal boundaries. Information needed for transportation planning, including the distance and time covered by daily commuting, the split in usage among the various means of transportation, and the average amount spent on trips, is often fragmentary or unavailable. Procedures for estimating,

for example, water use, unaccounted for water, and volumes of solid waste created per person, are often rudimentary and result in inaccurate data. Most important of all are serious shortages of such industrial and commercial data as the types and degrees of production interlinks among enterprises, sources of raw material inputs, channels and scopes of markets, and factors that determine why some enterprises cluster in specific zones and others do not.

A procedural barrier to the use of planning to achieve CCD is the non-adoption of master plans by the proper governmental bodies. In some instances, plans are regarded as merely indicative and not as authoritative statutory enactments. Without legislative approval, the plans do not have the force of law; i.e., local government bodies within a city cluster are unable to pass ordinances, zoning codes, and land use regulations with which the plan should conform. Another barrier to CCD is that many plans lack measures for achieving environmental sustainability and cultural conservation. Built forms are considered more important than natural elements, and the plans fail to consider complex biological and species-specific interrelationships. Ecologically sensitive areas such as marshes are developed, land reclamation destroys mangrove swamps, and natural drainage systems such as open streams and canals are turned into concreted culverts. Natural environmental protection functions are diminishing, and other cultural structures are demolished to make way for high-rise buildings of steel and glass. The resulting built-environment becomes more vulnerable to natural disasters.

Lack of valid and reliable information on which to base comprehensive plans may be mitigated by tapping the resources of academic and research institutions in the CCD area and encouraging them to conduct basic, in-depth studies on urban issues. Financial institutions such as ADB may be requested to include in projects funds for urban sector surveys, monitoring of a project's progress, and evaluations of a project's outputs and impact. To strengthen planning capacity, some in-service training programs should also be incorporated into projects and programs to strengthen the technical and professional capabilities of local planners and managers.

Use of Land Resources and Land Tenure

In Asian countries where cultural norms accord a high value to land ownership, the difficulties of acquiring land for public development efforts hinder CCD. In India, for example, efforts to set up special

economic zones to accelerate urban development have been stymied by demonstrations, and even violent riots, by farmers who object to alleged "land grabbing" by public officials and foreign investors. In the Philippines, public works projects have been delayed by squatters who invade the land on which the projects are to be built and refuse to be resettled unless they are provided with land, housing, and urban services in acceptable areas.

Land is a development resource and a crucial part of CCD. The cost of setting up urban infrastructure and services goes up when land is privately owned and the government has to buy it at fair market value, especially when land speculation is rampant or corrupt individuals who know of development plans ahead of time buy the land and then sell it to the government or private investors at inflated prices. Even in countries where the state can use eminent domain to acquire land for public development purposes, protracted and expensive litigation may hinder CCD initiatives. Public efforts at land banking, whereby governments buy land at low prices and reserve it for future development, are hampered by lack of funds. Land banking has been shown to contribute to increasing land values because the banked land is withdrawn from the market. Alternatively, the land readjustment method could be used, where land tenure could be maintained but a smaller area of developed land may be returned to the original occupants.

Economic Growth Potentials and Trade Functions

The lack of economic and trade resources in an area is a barrier to CCD initiatives. Obviously, city clusters that already have concentrations of economically robust industries and commercial enterprises are prime candidates for CCD because the authorities can build on these resources to accelerate economic growth. Examples of the types of enterprises that can be used to enhance CCD include information technology, high-tech research and development ventures, light industries, and manufacturing firms that use raw materials located in the area. Logistics and service industries, including banking and finance, insurance, and securities trading as well as tourism development, are also excellent bases for CCD. The existence, or potential introduction, of these types of enterprises is a sound basis for CCD. For the areas that lack these types of economic functions or resources, the CCD approach can be opportune by expanding the urban fields to nearby centers of development, because the spillover

effects from the developed center can be tapped.[1] Another major consideration is the presence of renowned institutions of higher education and research centers that can supply the human resources for energizing CCD.

Taxation, Intergovernmental Transfers, and Fiscal Discipline

In most Asian countries, local government units derive the great bulk of their income from internal revenue transfers and grants-in-aid from higher levels of government. While central and provincial or state governments may use such fund transfers to initiate CCD activities (for example, financing urban infrastructure and services), the lack of capacity of local government bodies to raise revenue is a barrier to CCD because sufficient funds for future operation and maintenance of those activities cannot be assured. The urban infrastructure and services that are the backbones of CCD require large amounts of capital, which is often obtained through domestic and foreign borrowing. However, many central governments do not usually allow cities and municipalities to borrow for long-term investments. Even when they do allow borrowing, they are often extremely reluctant to provide sovereign guarantees. Finally, lack of transparency and accountability among local officials (as seen in cases of graft and corruption) is a critical barrier to financing CCD projects.

Another barrier to CCD is that many local leaders do not appreciate that entrepreneurship is required to provide infrastructure and services for urban development. Concerned with the political repercussions of their actions, local leaders avoid risky ventures and focus on the day-to-day operations of city governments. Some leaders lack an understanding of capital markets and financing. As a result, most projects, when implemented, entail high cost overruns. Budget deficits are quite common when local leaders pursue grandiose projects and neglect to consider costs.

In North America and Europe, real estate taxes are usually an important source of local revenue. This is not usually the case in Asian countries, for several reasons. First, land ownership may be hard to establish because of lack of cadastral surveys and reliable land-titling systems. Second, land registers indicating legal land

[1] Examples are (i) Suzhou's Sino-China Industrial Park tapping into the proximity to Shanghai Megacity, and (ii) Guangzou–Shenzen clustered development taking advantage of Hong Kong, China.

ownership are often incomplete and are not regularly updated. Land registration is also vastly complicated by complex inheritance laws (communal lands or lands subject to customary, or adat, laws are particularly serious complicating factors). Third, land appraisals are not conducted regularly, and assessments are usually set at rates that are generally much lower than fair market value. Finally, land management systems are peculiarly prone to graft and corruption because the complex rules and regulations governing land give administrators a great deal of discretionary power and they are able to exercise their judgment arbitrarily, usually for a fee.

Infrastructure and Information Networks

Providing urban infrastructure and services is the main instrument for a successful CCD initiative. Unfortunately, most cities in Asia are plagued with such infrastructure problems as poor road networks, inadequate water supply, unpredictable energy provision, overloaded transportation systems, and inefficient solid-waste management systems. These inadequacies are a barrier to CCD. Infrastructure and information networks are also important assets when developing a city cluster. For example, the Shenzhen special economic zone in the People's Republic of China was located about 20 km from Hong Kong, China, and the Suzhou Industrial Park was located about 85 km from Shanghai to take advantage of the links to the big cities that acted as "incubators" for fostering CCD. Conversely, physical remoteness from sources of development inputs and external markets acts as a barrier to CCD. Finally, sustained CCD requires efficient links between the city cluster and the outside world. In an increasingly globalized economic system, the lack of communications and information technology serves as a barrier to obtaining accurate and timely information about development prospects. It limits a city cluster's ability to attract foreign direct investments and curtails the capacity of local producers to reach external markets for the goods they produce.

Role of the Private Sector

Private financial and technological resources can be tapped for CCD. However, inadequate public mechanisms for encouraging private sector participation in urban development schemes can serve as a barrier. At the most basic level, a widespread impression by public officials that private entrepreneurs are mainly motivated by profits

may inhibit private sector participation. At the same time, the negative effects of such an attitude are exacerbated by the perception by entrepreneurs that public officials are mainly interested in "rent seeking" and not in the public good.

While many Asian governments have adopted private sector participation mechanisms, including leasing, franchising, ownership, and management arrangements, cases of serious anomalies continue to deter private sector participation in CCD. Lack of clarity in the processes and procedures for carrying out investment projects results in costly delays. Procurement and purchasing mechanisms are often made unduly complex to make room for the exercise of arbitrary power that enables bribery and other forms of graft and corruption. For private entrepreneurs to recoup their losses from such illegal practices, they may cut corners or deliver substandard performance. All these serve as barriers to private sector participation in CCD.

Approaches for Developing City Clusters

Ways to mitigate and overcome the barriers to CCD are needed. Based on experiences in a number of Asian countries, some approaches have been found useful. To optimize the potentials of CCD, some strategic approaches are identified and suggested below.

Integrated Development Planning

One basic feature of CCD is that it requires planning a whole urban region rather than confining activities within the boundaries of a local government unit. Comprehensive development planning, therefore, must overcome the barriers created by political and administrative fragmentation and emphasize the interlinks among cities in the cluster. CCD recognizes the interrelationships between urban and rural areas. Planning for CCD focuses on the socioeconomic, technological, and environmental aspects of urban life. It considers the economic strengths of each city and fits them into a synergistic whole. It links the settlements in the cluster by trunk infrastructure and services to enhance mobility of people, goods, and services within the cluster. It reserves green areas for urban agriculture and open spaces to serve as lungs for the whole cluster. It protects and conserves the natural environment to achieve ecological sustainability.

When done properly, comprehensive planning can be an effective instrument for area-wide management of urban affairs. The setting of clear and measurable development goals to be achieved

within the plan period (for example, per capita income of $20,000 by 2025, as in the Chongqing, PRC, city cluster plan) can motivate local officials and citizens to support the plan. Specifying the types of urban infrastructure to be built and indicating milestones when each stage is expected to be accomplished give citizens a clear idea what to expect. Well-conceived plans also provide task managers with benchmarks for monitoring and evaluating progress. Calculating and setting the financial, material, and human resources required to achieve planned goals provides a clear and realistic assessment of resource needs.

To achieve CCD, a comprehensive plan has to be formulated in a participatory manner; inputs from all stakeholders—civil society groups, the business sector, government bodies, and community residents—should be considered. In some cases, the formulation of a plan is regarded as a technical exercise that is carried out by government agencies or private consulting firms. An overly technical process, however, may fail to resolve contentious issues that need to be addressed by in-depth discussions and conflict-resolution processes. To ensure a full participatory process in formulating a plan, information about key issues, public hearings, and community consultations must be extensively conducted and disseminated.

Formulating ambitious plans for CCD and then failing to adopt them out is an all-too-common practice. Metro Manila, for example, still has no approved metropolitan plan despite several efforts to formulate one. The process of formulating a plan can serve as a precursor to the establishment of good governance mechanisms, as has been the case in Delhi, where the 1985 plan prepared under the National Capital Region Planning Board Act stipulated the concurrence of the constituent states in the National Capital Region and local government units in Haryana, Rajasthan, and Uttar Pradesh. In city clusters where local government bodies are fragmented, as in Greater Dhaka, attempts to set up a region-wide governance mechanism will most likely be resisted. However, starting the process of governance reform by formulating development plans that are less controversial may elicit better cooperation. If the planning process is successful, it may encourage local officials to be more receptive to a region-wide governance.

Institutional and Legal Structures

One of the greatest challenges in implementing CCD is how to balance power and authority among autonomous local governments and the central government. In most Asian countries, local

government bodies are strongly committed to local autonomy. In India, the 73rd and 74th amendments to the constitution decentralized authority to urban and rural local government bodies. In the Philippines, the Local Government Code of 1991 devolved authority and power to provinces, cities, municipalities, and barangays (the lowest level of local governance). Decentralization resulted in the fragmentation of local governments. In city clusters, this fragmentation makes cooperation and coordination of decision making on issues of common concern extremely difficult (Laquian 2002a).

One main feature of decentralization schemes is the devolution of authority and power to the smallest local government body. However, while small local government bodies may be good vehicles for democratic public participation, often they do not have the financial and human resources to deal effectively with CCD issues, which results in slow economic growth. Their tax base is not large enough, and they rely heavily on grants and aid from higher levels of government. Their local budgets are often insufficient to attract qualified professionals and managers. Granting local autonomy prematurely to such small units when governance capacity is still weak, therefore, becomes an obstacle to CCD because it makes the adoption of such city region governance structures as metropolitan authorities or regional planning bodies extremely difficult.

Supporters of decentralization see it as a necessary element of grassroots democracy, believing that people participate more actively in public decision making when issues involve local concerns. When urban agglomerations expand and form city clusters, however, some of the issues are beyond those of purely local concern. Ideally, a higher-level metropolitan or second-tier governance structure can be set up to deal with area-wide concerns. Since the issues involved in running urban region governance mechanisms directly affect the lives of residents of the entire region, levels of local citizen participation may actually become irrelevant under region-wide arrangements.

The congruence of institutional and legal structures is crucial to the smooth functioning of city clusters that encompass urban settlements straddling different nation states, or within areas of special status such as a single nation state, for example, in the Singapore–Johor–Riau growth triangle in Southeast Asia and, to a lesser extent, in Hong Kong, China, and Macau, which are special administrative regions within the PRC. Agreements on such crucial elements for pursuing CCD as assured supplies of water and energy have to be worked out. The flow of people across borders has to be strictly managed and controlled. The establishment of transportation

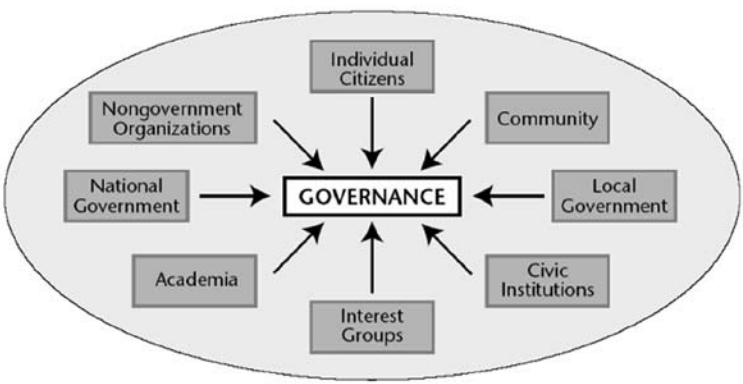
systems to ease the flow of goods across borders has to conform to legal and institutional regulations in all the areas within the cluster. However, as exemplified by the two cases cited, the advantages and benefits of institutional and legal arrangements that facilitate CCD are often so marked that governments are willing to implement them.

Governance of City Regions

One key to good governance is balancing citizen participation in formulating and adopting policies and programs. Efficient execution of such policies and programs requires an effective administrative structure. Some city clusters such as Metro Manila vest policy making in a metropolitan board composed of the mayors of constituent local government bodies and make policy execution the responsibility of a regional development authority. Others such as Beijing and Shanghai have unified governance mechanisms with full authority to manage all affairs within the city cluster. The first model has the advantage of popular participation in decision making, but the process may result in delays and unwieldy compromises to respond to partisan interests. The second model may be more efficient because of the speedy decisions and efficient execution of programs and projects, but the lack of active civic participation in decision making may lead to adoption of ineffective or unpopular programs and projects (Laquian 2002b).

Governance in city clusters can be made more effective by the active participation of civil society through nongovernment

Figure 8: Basic Elements of Urban Governance



organizations (NGOs) and various civic associations. For example, such local organizations as Civic Exnora in Chennai and Waste Concern in Dhaka have had considerable success in collecting and disposing of garbage. In Metro Manila, NGOs and community groups have launched waste sorting and composting to reduce the volume of waste that would otherwise go to disposal sites. In Jakarta and other Indonesian cities, kampong residents have set up such community projects as building and maintaining footpaths, cleaning and dredging canals, and building communal toilets. In Bangkok, the "eyes on the streets" program has mobilized children in community efforts to keep city streets clean. In Karachi, community groups have constructed their own sanitation facilities. Most important, civil society groups have enhanced people's participation in public affairs by, for example, encouraging them to vote, airing their views on controversial issues, and exposing cases of graft and corruption.

Local leadership is a key element in good governance. A review of governance practices in a number of Asian city clusters has highlighted the need for entrepreneurial urban officials with the political will to pursue area-wide urban reforms. The political support of provincial or state officials is particularly important for CCD's success . In most Asian countries, urban development is a provincial or state function. Central governments may set national development policies, but the authority to intervene in urban affairs through comprehensive planning or governance schemes is vested in provincial or state governments. Therefore, policy mandates and financial resources from provincial or state governments are key factors to successful CCD.

Innovative Financing

Most local government bodies in Asia are heavily dependent on central and provincial or state governments for financing urban development schemes. To achieve CCD, intergovernmental fiscal relationships need to be rebalanced, so that local government bodies (LGBs) can raise the funds to meet most of their needs. This calls for such measures as delegating more power over taxation and borrowing to LGBs. LGBs within a cluster can be authorized to tap the resources of both foreign and domestic entities for urban infrastructure projects. These resources can include assistance from international and regional financial institutions, especially those that offer low-interest and concessional loans. Long-term loans with or with-

out sovereign guarantees can be easier to obtain when LGBs within a cluster band together and thus obtain a higher credit rating.

Innovative financing approaches are needed to overcome some of the barriers to raising financial and other resources necessary for CCD. One approach is to coordinate action on financial reforms among cities within a cluster. Income generation processes have to be rationalized, through standardizing assessment procedures, computerizing tax rolls, providing technical training for revenue personnel, and passing strict laws to discourage corruption. When such reforms are carried out across an entire city cluster, it becomes extremely difficult for speculative investors to pit one local unit against another to gain tax privileges and concessions. Area-wide tax reforms distribute the tax burden more equitably among residents. The credit rating of a governance unit with authority over an entire city cluster, formed by the united local units, is much higher than the credit rating of those individual local units.

CCD makes possible the formulation, adoption, and implementation of an integrated capital budget for an entire cluster by sector and by territory. It facilitates allocation of resources based on an area-wide assessment of demand and careful appraisal of the financial capabilities of the entities competing for the resources. Budgets can be implemented by local and cluster-wide agencies based on commonly agreed-upon objectives and performance standards. Monitoring and evaluating the effects and impact of development programs can be carried out more effectively if they are based on measurable outputs agreed on by units within the cluster.

Opportunities for using public–private partnership in financing urban infrastructure and services are significantly enhanced when area-wide ventures are used in city clusters. Experience has shown that public–private partnership approaches can tap the capital resources, technological expertise, and managerial and financial talents of foreign and domestic investors and divide the risks between the public and the private sectors. A review of projects in a number of Asian city clusters show the usefulness of awarding to private investors contracts, franchises, and concessions for providing urban infrastructure and services. Various financing schemes, including build-operate-transfer, build-own-manage, and build-own-operate-transfer, have proved to be eminently suitable for providing infrastructure and services. These approaches have greatly facilitated CCD.

Small local government units that form a city cluster can use output-based aid (OBA) approaches in the form of performance-based

subsidies that complement or replace user fees. OBA-supported projects—for example, those operated by the World Bank in India—involve contracting out to private companies, nongovernment organizations, or community-based organizations basic services provision in such areas as roads, water, or health and sanitation. Subsidies are linked to the delivery of specified outputs (for example, per kilometer of road maintained or per connection made in a waterworks network). The OBA approach has been found most useful in supporting small-scale projects, but it can be scaled up for larger projects in urban and suburban areas within city clusters (World Bank 2007).

Growth Potentials and Economic Functions of Clusters

The primary means for developing special economic zones (SEZs) and other economic functional enclaves is the provision of the infrastructure to support the planned economic functions. Scale is another important consideration in using SEZ as an instrument of an urban-led development strategy. As shown in the PRC, for a SEZ to be successful, it must be large enough to make an impact not just in a city where it is located but also in the whole region of influence. Infrastructure and services should be of a size to benefit from economies of scale, agglomeration, and location. Foreign direct investments and domestic counterpart funds need to be large. The vision for the SEZ should be regional, or even global, and not purely local. In the PRC, the central government has had to stop a number of local government officials from setting up mini-SEZs on their own. In an effort to emulate the large SEZs, these local officials fenced off parcels of land, put in some roads and water and sewer systems, and then advertised the availability of these enclaves to potential investors. However, investors did not respond. So many of these small SEZs were set up in the Pearl River Delta that agricultural productivity suffered because the fenced-off lands were withdrawn from cultivation. The central and provincial governments eventually prohibited the setting up of unauthorized SEZs and enacted strict regulations on the conversion of agricultural land into urban uses (Lin 2002).

A corollary to scale in the establishment of SEZs is concentration. Since most developing countries do not have sufficient resources to successfully set up many SEZs, concentrating these resources in only a few projects has been found to have greater impact. For example, the PRC, despite its size, has established only six SEZs—in Hainan Island, Shantou, Shenzhen, Xiamen, Zhuhai,

and the Pudong development zone in Shanghai. By doing this, it has been able to achieve a scale that makes these SEZs successful. The PRC's policy of concentration differs from the strategy in India, where at least 404 SEZs have been formally approved to be set up in various parts of the country, another 167 have been approved in principle, and an additional 193 had been notified that their schemes were under consideration. That the establishment of SEZs in West Bengal and other states has been met with protests and violent demonstrations from farmers who lost their lands to the schemes warrants a cautionary note on the development of SEZs in India.

One shortcoming of SEZs and other development enclaves is their complete isolation from their hinterlands. Because SEZs are essentially considered foreign territories for the production of items for sale abroad, they are surrounded by high fences and access is subjected to strict security measures. In the Subic and Clark SEZs in the Philippines, for example, thousands of workers enter the fenced compounds at 7:00 am and troop out at 5:00 pm, overloading the city's transportation system. Workers live outside SEZs and are responsible for their own housing, causing inflation in housing costs and even the emergence of slum and squatter communities in the areas around SEZs. They avail themselves of public services offered by local governments around the SEZ, but these local governments do not benefit from the productivity of the SEZs because taxes and other resources generated within the SEZ go to the central government. SEZs have excellent facilities, like hotels and guest houses, for foreign investors, who enjoy tax-free privileges. Supplies and materials for these facilities, however, are imported from abroad instead of being purchased from suppliers in adjoining towns and cities. This insular nature of SEZs, therefore, considerably limits their developmental effects and impact on other urban settlements in the city cluster. In Gunnar Myrdal's terms, they do not create positive spread effects but instead unleash negative backwash effects. If SEZs are to be used in a CCD plan, provisions must be made for linking their development to their hinterlands, and the benefits from their operations should be shared with all of the other settlements in the cluster.

Land Resources Development

As cities expand to form urban clusters, economic activities and services aggregate around productive urban nodes, which may be

called localization of economies. Localization of economies is encouraged by cost savings due to proximity to production facilities, access to markets, and lower labor costs. As localization of economies intensifies, more land will be needed, which dramatically increases local land values. Since land in the PRC is never sold but instead is leased (usually for 50–70 years), the government continues to retain control over land use and charge the fees for using the land. According to Article 18 of the PRC's Administration Law on Real Estate (1994), all fees paid for the use of land by developers are incorporated in a locality's budget and are specifically earmarked for construction of infrastructure and land development. A revision of the law in 2004 allocated 30% of the fees to the Ministry of Finance and 70% to the local government body. Developers pay land use fees in full upon approval of the land conversion into urban use, and constitute an important source of local revenue. The considerable financial proceeds from land development have enabled many local government bodies in the PRC to construct urban infrastructure and services. However, many local officials understand that land development schemes have some limitations. For instance, the financial proceeds are one-time benefits, and unless they are efficiently invested, they do not create a continuous stream of revenue.

In addition to land use fees, the PRC levies a land tax based on the area of the land involved in a transaction. For land used by foreign enterprises, a value-added tax is levied on the additional value gained from the transfer of the land from public to "private" use. Other incomes "unlocked" by use of the land for urban development include proceeds from a business tax, a deed tax on the land transfer, and a stamp duty on contracts and certificates linked to transfers of real property. In fact, analysis of development schemes in the PRC reveals that for most local government bodies, the major "counterpart asset" in joint venture schemes has been the value attached to the use of land.

In countries where land is privately owned, as in India and the Philippines, efficient CCD initiatives can be promoted by public policy. For example, land banking—whereby the government purchases raw land when it is still relatively cheap and then reserves it for future development—has been widely practiced. If the government needs land for a development project, it can use eminent domain to take over the land, provided its use will contribute to the general welfare. Idle land can be taxed by the government to raise revenue and to discourage land speculation. In some countries, land swaps—whereby the government exchanges pieces of land with

equal values for those that it needs for development projects—are used. Private entrepreneurs have also been allowed to develop raw land, and parcels of the land are later allocated to them as compensation for their efforts.

An interesting method of increasing local government revenue that has been widely practiced in Latin America is the use of taxation to capture the additional value that accrues to land as the result of the development of infrastructure and services. For example, land parcels along a newly built road may be reassessed to reflect their enhanced value. The challenge then becomes how to increase tax collections. Increasing tax collections can be carried out by making periodic assessments based on the purchase price of homes in specific sections of a city and then imposing taxes based on the prevailing market values. In cities in many developing countries, real estate taxes are not efficiently collected because land ownership cannot easily be determined. In such cases, simple methods of carrying out cadastral surveys, determining true land ownership, compiling land registries, computerizing property rolls, and setting up accurate assessment and real estate tax collection systems that are transparent and free of corruption can dramatically increase revenue from land taxes and property improvements.

A Road Map for Pursuing City Cluster Development Initiatives

ADB's long-term development strategy envisions a shift in development banking from the traditional role of transferring capital from outside the region to Asian countries to a new role of reducing poverty by supporting economic growth and inclusive development. To achieve this goal, ADB focuses on six core areas:

- infrastructure development,
- financial strengthening,
- energy and the environment,
- regional integration,
- technological development, and
- knowledge management.

Since its founding 40 years ago, ADB has had a good track record overall, particularly in infrastructure development. The 2007 report of the Eminent Persons Group to the President of ADB stated that to build upon this accomplishment, "infrastructure development has been and must remain the primary focus of ADB activities in all developing member countries" (ADB 2007).

The CCD approach provides an opportunity to bring together, thematically and structurally, closely related urban sector activities. In pursuing urban infrastructure projects, it is not enough to focus on single sector–initiatives like roads, water supply, or energy systems. Rather, a CCD—type approach is required so that economic growth potentials of urban regions can be linked into coherent infrastructure scheme to achieve synergy. It is also necessary to focus on city clusters rather than on individual cities since most urban infrastructure and services, because of their very nature, require an area-wide approach.

For example, constructing a road is not a simple engineering activity that will enable people to travel from point A to point B. It requires comprehensive analysis that takes into account where people work and where they live; what is current land use pattern and how it will change in short- or long-term perspectives; how these different economic activities should be efficiently connected; whether different modes of transportation can be more efficiently managed by the public or the private sector; the type of institutional mechanisms required to make transportation efficient; and whether building the road will require relocation of individuals, houses, and commercial and industrial establishments. If clusters of industrial and commercial activity in the areas are served by the road, how can these be linked to supply points and outlets for the delivery of goods? If urban settlements form a city cluster, what is the best way of linking them together by the road system to achieve synergy that will help achieve economic growth? Similarly, providing water to an urban settlement is a complex undertaking that involves economic, financial, health, sanitation, technological, managerial, environmental, and equity considerations.

ADB's 2006 special evaluation study of its urban sector strategy recommended that a business plan be formulated to translate the broad goals of urban sector strategy into reality. An initial step in formulating such a business plan is the setting out of a road map for pursuing CCD as an integral part of an urban-led development strategy. Such a road map assumes that ADB will make a commitment to pursue urban sector development, that a more effective mechanism for coordinating urban sector activities will be created, that CCD will be designated a preferred method for pursuing urban sector projects, and that additional funds will be allocated to support urban sector initiatives. After a careful review of CCD as a concept, an analysis of ADB policies and operations, formulation of a strategic framework for pursuing CCD, and an exploration of the

situation in India, this study suggests the following steps for a road map for pursuing CCD.

Including Urban Sector Initiatives in Country Development Strategies

ADB regularly included potential urban sector programs and projects in its country development strategies. This was natural because most country development strategies focused on development of infrastructure and services and these tended to be located in urban areas. To help client developing member countries identify CCD-type projects, sector review and strategy development (SRSD) exercises may be conducted in specific countries. SRSD exercises evaluate potential areas for CCD using a number of criteria, many of them suggested in this study. SRSD exercises can be assisted by internationally known consultants with expertise in CCD working closely with ADB task managers. Most SRSD experts, however, should be drawn from the countries themselves to tap the local knowledge and experiences of people who know the conditions in the country firsthand.

Identifying Potential Areas for CCD Initiatives

ADB's 2006 evaluation of its urban sector strategy and operations concluded that multisector projects (like those in a city cluster) can be successful if they are carefully designed before project approval. An approach focused on a single sector—for instance, roads, water, or energy—fails to take advantage of the synergy that arises from the interlinks among various sectors. The inherent complexity involved in using a multisector approach might be made more manageable by initially concentrating on a specific pilot city region. Identifying potential CCD areas should always be based on the rationale of urban-led development strategy, that is, "building an engine of growth"—which area has a better potential to be the stepping board for triggering economic growth, with bigger spillover benefits to a region, given limited time and resources? Focusing on a pilot area, a CCD approach and process should be built up, taking into account data availability for analyzing economic potentials to grow, its sphere of economic influence, feasible financing instruments, and cooperative governance structures in the field.

Adopting a Set of Guidelines for Selecting Potential CCD Projects

Almost all Asian countries have limited financial and other resources (even with ADB assistance) to devote to CCD projects. Guidelines are therefore needed to decide which city clusters are appropriate for CCD. How can one determine the seeds that can be nurtured so that, with proper interventions, development can occur in a particular city cluster? What factors can serve as indicators that a certain city cluster is the right site for a CCD project? Based on a review of the literature and discussions with urban specialists, the following factors are proposed for assessing an area's potential for CCD:

- **Distance of cities from each other.** Less distance between cities in a cluster makes it easier to pursue CCD. Some authorities suggest 75–100 km at most. Others believe that the distance covered in an hour of travel from the center of one city to the center of another at the legally allowed vehicular speed is a good measure for an acceptable city cluster boundary.
- **Location of city clusters in relation to large cities with robust economic and social development.** As shown in the planned development of the Shenzhen Special Economic Zone (20 km from Hong Kong, China) and Suzhou Industrial Park (85 km from Shanghai), locating a city cluster adjacent to a highly developed urban center enhances its viability for development.
- **Felt need for key urban infrastructure.** The availability of urban infrastructure and services in cities within a cluster will enhance CCD. Seriously deteriorated infrastructure and services requiring costly repair and maintenance will be a hindrance. If new infrastructure is required for CCD, problems such as difficult terrain or the existence of ecologically sensitive areas should be carefully considered.
- **Commitment of local officials to urban development.** Because CCD is a novel concept that requires entrepreneurial abilities and good urban management talents, the availability of local government officials committed to urban development is an important prerequisite. The presence of at least one official with a reputation for sound leadership in a city within a cluster is necessary for potential success.

- **A record of sound project management.** The record of local government bodies in managing urban sector projects should be reviewed before deciding to implement a CCD project. At specific sites where ADB, the World Bank, or other multilateral or bilateral agencies have supported projects, a careful review of the agencies' experience in managing the project would yield valuable information on the area's potential for CCD.
- **Financial performance of city governments.** A careful review of the financial management experience of local government bodies within a cluster can provide excellent clues about their ability to pursue CCD. For example, an analysis of a city's income and expenditures will yield important information on its capacity to finance, operate, and maintain urban projects. A city government's record in financing and managing urban infrastructure and services is also a good source of information about its ability to engage in sound fiscal management.
- **Developmental potential of industries in the cluster.** Although it is possible to set up CCD from scratch, the presence of productive activities in a cluster is a positive asset that can be tapped. For example, the presence of high-end manufacturing enterprises, free trade economic zones, centers of information technology, or high-tech ventures would facilitate CCD. Sites with good potential for tourism can also be good candidates for CCD.
- **Presence of renowned institutions of higher education, research centers, and research and development groups.** The presence of universities, research centers, innovation "incubators," and other knowledge-based groups can greatly help CCD. These institutions can supply the ideas for entrepreneurial ventures as well as the professional and technical human resources required by CCD.
- **Previous experience in formulating and adopting a comprehensive development plan.** CCD requires well-thought-out, comprehensive development plans that will integrate the economic, social, and technological elements required by integrated development in a city region. The presence of a professional planning group would be a great asset for CCD initiatives, especially a planning group that had previous experience in formulating, adopting, and carrying out a comprehensive development plan.

- **Proven use of efficient institutional arrangements for project management.** Government bodies with experience in using innovative management approaches would be assets in pursuing CCD. For example, familiarity with processes such as participatory budgeting, performance budgeting, and systematic monitoring and evaluation of projects would indicate sound management potentials. The presence of an area-wide administrative coordination mechanism, such as a metropolitan government, would be an asset for achieving CCD.
- **Availability of facilities that make mobility easier.** The smooth economic functioning of enterprises and commercial establishments in a city cluster depends on the availability of facilities for the movement of goods and services. The greater the number of ports, harbors, airports, and other transport facilities or logistics, the higher the viability of CCD.
- **Availability of financial resources that can be leveraged to support CCD.** Although central and local government financial resources are important sources for setting up urban infrastructure and services, they are often limited and need to be augmented by private capital from foreign or domestic sources. The use of innovative financing schemes—including public–private partnerships and bilateral and multilateral assistance—enhances the possibility of CCD.

Seeking and Using Local Expertise

In identifying potential areas for CCD, ADB should seek and use local expertise. An academic institution or research center located within the city cluster may be contracted to prepare a study of the potentials for and constraints on CCD faced in a specific city cluster. The review should take an in-depth look at the industries with growth potentials, performance records of urban sector projects (both those funded by ADB and those supported by other institutions) and identify the factors responsible for their success or failure. Guided by this report, a sector review and strategy development mission can validate the report's findings. The mission can meet with national, provincial or state, city, and other local officials responsible, as well as civil society and community-based groups to

learn their views on the possibility of CCD, paying special attention to urban infrastructure and services projects that can be developed with ADB assistance.

Mobilizing Financial Resources

ADB should identify funds within each country program that could be allocated to CCD projects. Discussing potential projects and identifying sources of funds will highlight the interrelationships among the various elements in complex CCD projects, which often require initiatives for roads and transport, energy, water and sanitation, housing, and solid waste management. One of the findings set forth in ADB's 2006 special evaluation study is the need for co-financing for urban infrastructure and services projects. ADB has to exert special efforts to tap public–private participation for urban development projects and leverage funds from other development partners or financial institutions

Conclusions and Recommendations

ADB's newly adopted long-term development strategy seeks to reduce poverty through "inclusive development and growth-promoting activities." The 2007 report of the Eminent Persons Group to the ADB President recommends a new and radically different paradigm of development banking for a new Asia that "blends knowledge generation with financial assistance" (ADB 2007). ADB's adoption of a new development strategy is timely because the economic and social situation in Asia and other parts of the world has dramatically changed since ADB was established in 1966. New issues—for example, climate change—have been added to the world's development agenda. The increasing number of destructive natural and human-made disasters has brought disaster management to the forefront of policy concerns. Most important, during the past 42 years, many Asian developing member countries have rapidly urbanized and many have achieved middle-income status. Close to 1 billion people are expected to be added to Asia's urban population in the next two decades, and ADB has estimated that in the coming 2 years, about $60 billion per year will be needed to meet the costs of urban infrastructure and services in the region.

CCD is a holistic process that requires a long term comprehensive urban sector perspective rather than sector-by-sector intervention. Traditionally, responsibilities for providing urban infrastructure and services have been broken down into single sectors; however, fragmenting authority and responsibility along sectoral lines will not

work for CCD. For the implementation of CCD, sectors have to be integrated with each other through comprehensive development planning and/or unified governance arrangements. CCD responds to the new patterns of urban growth in Asia, which are shifting from monocentric to polycentric development. The rationale of the CCD approach is not simply on output-based infrastructure provision—emphasis should be placed on its intended economic spillover impact whereby an urban-led development approach can accelerate the growth with inclusive manner. It enhances development in cities with industry clusters by linking these through efficient urban infrastructure and services. It facilitates the development of greenfield areas by establishing special economic zones, industrial parks, and other development enclaves with built-in infrastructure, housing, and other services.

As shown in the analytical framework for CCD in section IV of this study, a number of barriers to CCD require mitigation. Many developing member countries have launched decentralization programs that vest authority and responsibilities on autonomous local government bodies. This has resulted in acute fragmentation of local jurisdictions and thus makes dealing with area-wide problems difficult. Since decentralization shifts the responsibility for paying for urban infrastructure and services to local government bodies, many of which do not have sufficient resources to assume such costs, fewer projects tend to be pursued. Decentralization also causes functional fragmentation among different central, province or state, or city or municipal agencies charged with providing urban infrastructure and services, which also makes it difficult to implement CCD.

To make CCD a viable instrument for urban development, the barriers to its implementation must be overcome. Some actions recommended for doing this are the following:

- Use comprehensive development planning approaches that link all the growth-generating elements in a city cluster to create an integrated form of urban development.
- Include urban sector programs in country development strategies and identify city clusters that can be targeted for CCD.
- Identify possible areas for CCD initiatives, taking into consideration the advantages and disadvantages of various types of city clusters, which can fall under categories such as urban corridors, megacity-dominated clusters, and subregional city clusters.

- Use the set of guidelines included in this study in choosing potential city clusters for CCD initiatives.
- Use urban infrastructure and services as the skeletal structures for the integrated development of city clusters and economic and social interrelationships as the lifeblood for enhancing CCD.
- Choose an urban region which has the strongest growth potential industries to take advantage of the positive spread effects from such cluster centers.
- Identify mechanisms for unlocking the true economic value of land and use them for formulating and implementing CCD initiatives.
- Use development instruments like special economic zones, industrial parks, and other development enclaves in pursuing CCD programs.
- Develop new urban governance structures—which might include metropolitan governments; special development authorities in charge of groups of services like water and sanitation, transport and traffic, and solid waste disposal; confederations of local government bodies; or unified governance systems for whole city regions—that encompass whole city clusters.

References

Asian Development Bank (ADB). 1993. *Water Utilities Data Book for the Asian and Pacific Region*. Manila.

——. 2006. *Special Evaluation Study: Urban Sector Strategy and Operations*. Manila.

——. 2007. *Toward a New Asian Development Bank in a New Asia*. Manila.

——. 2008. *Asian Development Bank and India, 2007 Fact Sheet*. Available: www.adb.org/Documents/Books/Key_Indicators/2007/pdf/IND.pdf

Audretsch, David B., and Maryann P. Feldman. 1996. Innovative Clusters and the Industry Life Cycle. *Review of Industrial Organisation* 11: 253–273.

Breese, Gerald. 1966. *Urbanization in Developing Countries.* Englewood Cliffs, NJ: Prentice Hall.

Chakraberia, Gar. 2007. India's Special Economic Zones: A Peasant Surprise. *Economist*, 25 January.

Christaller, Walter. 1966. *Central Places in Southern Germany*. Englewood Cliffs, NJ, Prentice-Hall. Originally published as *Die zentralen Orte in Suddeutschland* (Jena, Germany, 1933). Quoted in Peter Hall. 2003. *The World's Urban Systems: A European Perspective*. Brussels: European Unions Spatial Planning Observation Network.

Dharmapatni, Ida, Ayu Indira, and Tommy Firman. 1995. Problems and Challenges of Mega-urban Regions in Indonesia: The Case of Jabotabek and the Bandung Metropolitan Area. In *The Mega-Urban*

Regions of Southeast Asia, edited by T.G. McGee and Ira M. Robinson. Vancouver: University of British Columbia Press.

Enright, Michael, Ka-mun Chang, Edith Scott, and Wen-hui Zhu. 2003. *Hong Kong and the Pearl River Delta: The Economic Interaction*. Hong Kong: Hong Kong 2022 Foundation.

Friedmann, John. 1992. *Empowerment: The Politics of Alternative Development*. Cambridge, MA: Blackwell.

———. 1998. The Common Good: Assessing the Performance of Cities. In *Urban and Regional Governance in the Asia Pacific*, edited by John Friedmann. Vancouver: Institute of Asian Research, University of British Columbia.

Ganapathy, R.S. 1984. Spatial Development, Small Towns and Public Policy: The Indian Experience. In *Equity with Growth? Planning Perspectives for Small Towns in Developing Countries*, edited by H. Detlef Kammeier and Peter J. Swan. Bangkok: Asian Institute of Technology.

Gottman, Jean. 1961. *Megalopolis: The Urbanized Northeastern Seaboard of the United States*. New York: Twentieth Century Fund and Kraus International Publications.

Gupta, Shreekant. 2007. Is There Life after MPD 2021? *Business Standard*, New Delhi, 3 March.

Hall, Peter. 2003. *The World's Urban Systems: A European Perspective*. Brussels: European Spatial Planning Observation Network.

Hamer, Andres. 1994. Economic Impacts of Third World Mega-cities: Is Size the Issue? In *Mega-City Growth and the Future*, edited by Roland Fuchs, Ellen Brennan, Joseph Chamie, Fuchen Lo, and Joha I. Uitto. Tokyo: United Nations University.

Held, James R. 1996. Clusters as an Economic Development Tool: Beyond the Pitfalls. *Economic Development Quarterly* 10 (August): 249–61.

India SEZ. 2007. *Special Economic Zone, Navi Mumbai*. www.navimumbaisez.com/home.htm

Kundu, Amitabh. 2007. *Dynamics of Growth and Process of Degenerated Peripherilization in Delhi: An Analysis of Socio-economic Segmentation and Differentiation in Micro-environment*. New Delhi: Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University.

Laquian, Aprodicio. 2002a. Metro Manila: People's Participation and Social Inclusion in a City of Villages. In *Urban Governance around the World*, edited by Blair Ruble, Richard Stren, Joseph Tulchin, and Diana Varat. Washington, DC: Woodrow Wilson International Center for Scholars.

———. 2002b. Urban Governance: Some Lessons Learned. In *Democratic Governance and Urban Sustainability*, edited by Joseph Tulchin, Diana Varat, and Blair Ruble. Washington, DC: Woodrow Wilson International Center for Scholars.

———. 2005. *Beyond Metropolis: The Planning and Governance of Asia's Mega-Urban Regions*. Washington, DC: Woodrow Wilson Center Press; Baltimore, MD: Johns Hopkins University Press.

———. 2006. People's Republic of China. In *Urbanization and Sustainability in Asia: Good Practice Approaches in Urban and Region Development*, edited by Brian Roberts and Trevor Kanaley. Manila: Asian Development Bank and Cities Alliance.

Lin, George. 2002. The Growth and Structural Change of Chinese Cities: A Contextual and Geographic Analysis. *Cities*, 19: 299–316.

Lindfield, Michael. 1998. *Multi-sectoral Investment Planning in Ho Chi Minh City: Industry Clusters and Strategic Infrastructure*. Ho Chi Minh City: United Nations Development Programme.

Macleod, Scott, and T.G. McGee. 1996. The Singapore–Johore–Riau Growth Triangle: An Emerging Extended Metropolitan Region. In *Emerging World Cities in Pacific Asia*, edited by Fu-chen Lo and Yue-man Yeung. Tokyo: United Nations University Press.

Mangahas, Joel. 2006. The Philippines. In *Urbanization and Sustainability in Asia, Good Practice Approaches in Urban Development*, edited by Brian Roberts and Trevor Kanaley. Manila: Asian Development Bank and Cities Alliance.

Mathur, Om Prakash. 2006. India. In *Urbanization and Sustainability in Asia: Case Studies of Good Practice Approaches in Urban Region Development*, edited by Brian Roberts and Trevor Kanaley. Manila: Asian Development Bank and Cities Alliance.

McGee, T.G., 1967. *The Southeast Asian City: A Social Geography of the Primate Cities of Southeast Asia*. London: G. Bell and Sons.

———. 1995. Metrofitting the Emerging Mega-urban regions in ASEAN: An Overview. In *The Mega-Urban Regions of Southeast Asia*, edited by T.G. McGee and Ira M. Robinson. Vancouver: Institute of Asian Research, University of British Columbia.

National Capital Region Planning Board, Delhi. 2005. *Regional Plan 2021, National Capital Region*. Delhi: Ministry of Urban Development.

Porter, Michael E. 1990. *The Competitive Advantage of Nations*. New York: Macmillan.

Purushothaman, Roopa, Saurabh Bandyopadhyay, and Anindya Roy. 2008. Is Urban Growth Good for Rural India? Paper presented at the United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development, New York, 21–23 January.

Roberts, Brian. 1997. Inventing a Future for Regions: New Frameworks for Regional Economic Development Planning. Paper presented at the Western Regional Science Association Conference, Hawaii, 23–27 February.

———. 1998. Enhancing Economic Performance in Ho Chi Minh City: The Need to Focus on the Building of Industry Clusters, Strategic Infrastructure and Multi-sectoral Planning. Ho Chi Minh City: United Nations Development Programme, Report on Project VIE/95/051.

Roberts, Brian, and Michael Lindfield. 2000. Managing the Provision of Infrastructure in Support of Industry Cluster Development: The Case of Ho Chi Minh City. *Journal of Public Affairs Management*, Kaoshiung, 1: 115–47.

Sassen, Saskia. 1991. *The Global City: New York, London. Tokyo*. Princeton, NJ: Princeton University Press.

Sharma, Preeti. 2007. New SEZ Policy Fails China Test. *News Insight, the Public Affairs Magazine*. 9 January.

Sivaramakrishnan, K.C. 2007. Municipal and Metropolitan Governance: Are They Relevant to the Urban Poor? In *The Inclusive City: Infrastructure and Public Services for the Urban Poor in Asia*, edited by Aprodicio A. Laquian, Vinod Tewari, and Lisa M. Hanley. Washington, DC: Woodrow Wilson Center Press; Baltimore, MD: Johns Hopkins University Press.

Tewari, Vinod. 2007. Reforming the Urban Sector in India. *Regulatori*, official journal of The Energy and Resources Institute, New Delhi, September.

Tewari, Vinod, Usha Raghupathi, and Jamal Husain Ansari. 2007. Improving Housing and Basic Services for the Urban Poor in India. In *The Inclusive City: Infrastructure and Public Services for the Urban Poor in Asia*, edited by Aprodicio A. Laquian, Vinod Tewari, and Lisa M. Hanley. Washington, DC: Woodrow Wilson Center Press; Baltimore, MD: Johns Hopkins University Press.

Tiwari, Geetam. 2002. *Urban Transport for Growing Cities: High Capacity Bus Systems*. New Delhi: Macmillan India.

United Nations (UN). 2007. *World Urbanization Prospects: The 2007 Revision*. New York: Department of Economic and Social Affairs, Population Division.

UN Centre for Human Settlements (Habitat). 1996. *An Urbanizing World: Global Report on Human Settlements, 1996*. Oxford: Oxford University Press.

Van Horen, Basil. 2007. Community Upgrading and Institutional Capacity Building for the Urban Poor in Asia. In *The Inclusive City: Infrastructure and Public Services for the Urban Poor in Asia*, edited by Aprodicio A. Laquian, Vinod Tewari, and Lisa M. Hanley. Washington, DC: Woodrow Wilson Center Press; Baltimore, MD: Johns Hopkins University Press.

Vats, R.K. 2007. Urbanization in India and the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). Presentation at the PRC–ADB–India Workshop on PRC's Urban Development Experience with Private Sector Participation, Beijing, 12 November.

Wilshire, Peter, and Rosemary Richter. 1975. *The Exploding Cities*. New York: Quadrangle, The New York Times Book Company.

Wirth, Louis. 1938. Urbanism as a Way of Life. *American Journal of Sociology* 44: 1–24.

World Bank. 2006a. *India Country Review, 2006*. Washington, DC: The World Bank.

———. 2006b. *Reforming Public Services in India: Drawing Lessons from Success*. (Report No. 35401-IN). Washington, DC: Poverty Reduction and Economic Management Sector Unit, South Asia, The World Bank.

———. 2007. *Structuring Output-based Aid (OBA) Approaches in World Bank Group Operations, Guidance Note for Staff*. Washington, DC: Procurement Policy and Services Department, The World Bank.

Yee, Francis. 1992. Economic and Urban Changes in the Shenzhen Special Economic Zone, 1979–1980. Vancouver: Department of Geography, University of British Columbia.

Yeh, Anthony Gar-on, Yok-shiu Lee, Tunney Lee, and Nien Dak Sze. 2002. *Building a Competitive Pearl River Delta Region, Cooperation, Coordination and Planning*. Hong Kong: Centre of Urban Planning and Environmental Management, University of Hong Kong.

Zhao Bian. 2007. Strategy Proposed for Balanced Development, Chongqing to Drive Economic Growth through Urbanization. *China Daily*, 9 November.

Appendix

City Cluster Development in India

India has 1.13 billion people (2007 estimate), 29% of whom live in urban areas, with the percentage of urban residents expected to increase to 50% by 2030. Six of the world's largest metropolitan areas are in India, and the number of cities with 1 million or more inhabitants grew from 23 in 1991 to 40 in 2001. This is projected to increase to 70 by 2021. The contribution of cities to India's GDP increased from 29% in 1951 to 55% in 1991 and to approximately 60% in 2001. Despite the wealth created by urbanization, India continues to struggle to meet the infrastructure and services needs of its urban citizens. Although planned development of the country's urban areas has been a policy since its independence in 1947, towns and cities have grown in an uncontrolled and haphazard manner (Tewari 2007). Thus, India is an excellent candidate for CCD. The situation in India is analyzed, using the conceptual framework for CCD proposed in this study, to examine the possibility of setting up planned city clusters in various parts of the country to help contribute to the country's overall development.

Although some demographers claim that India is "under-urbanized" in light of its state of economic development, the country's cities and towns are so beset with serious problems that the issue of whether urban growth is good for the country's rural areas or not has been questioned (Purushothaman, Bandyopadhyay, and Roy 2008). India's 2001 census indicated that in 607 towns with populations of more than 50,000, the total

slum population was more than 40.6 million. In 2002, a study reported that only 58% of town and city dwellers in India had access to sanitation facilities and about 158 million people (more than half of urban residents) lived in slum conditions (Mathur 2006). The World Bank's 2006 *India Country Review* estimated the poverty level of the whole country at 35% using the criterion of $1 per day (purchasing power parity in 2000). About 86% of the total population had access to improved water sources, but only 30% had access to improved sanitation facilities (World Bank 2006a).

In past decades, ADB has focused on the rural sector in India by supporting projects like the rural roads development program, irrigation schemes, and rural cooperatives. In recent years, however, ADB has started to support urban infrastructure projects, among them, the $85 million Karnataka Urban Infrastructure Development Project. For the 2007–2009 India country program, ADB has earmarked 34% of lending to transportation, 22.6% to urban projects, and 19.5% to the energy sector. The India program is also considering support for projects such as intermodal transport systems and provision of infrastructure in cities with tourism potential (ADB 2008).

ADB's shift to urban issues in its India program is most welcome because the country's urban problems have been building up since independence in 1947. The turmoil caused by Partition saw millions of refugees flock to the cities, straining urban infrastructure facilities and greatly expanding slums and squatter colonies. To cope with the country's urban problems, the Government launched a two-pronged development strategy consisting of a rural community development program designed to encourage people to stay in villages and an urban slum improvement and clearance program to deal with uncontrolled settlements. To put the strategy into effect, the Government established the national Department of Community Development, with corresponding state and local level offices. To carry out the rural development program, groups of about 100 villages with populations of 60,000 to 70,000 were designated as building blocks of the community development structure. Later, urban community development programs were started in a number of cities. Slum improvement and sites and services schemes were tried; they were designed to enable the urban poor to solve their problems themselves with the support of the Government and nongovernment organizations. The Government also started a tenement housing program for low-income households, but because of a lack of resources, the tenements housed less than half a percent of the total number of families in the slums (Sivaramakrishnan 2007).

Other Government efforts to cope with urban problems included an infrastructure development program for small and medium-sized towns, an accelerated water supply program, and the establishment of growth centers and growth poles. In the infrastructure development of small and medium-sized towns program, the Government contributed from 36% to 48% of the cost of infrastructure development in towns with populations of less than 500,000. For large cities with populations of 4 million or more, the Government contributed 25% of infrastructure development costs, the states 25%, and the cities 50%. The accelerated urban water supply program was confined to small towns with populations of 20,000 or less. In the growth centers and growth poles program, the central and state governments provided infrastructure development to urban settlements on the outskirts of big cities. However, many growth centers and growth poles were located so close to the large cities that they were eventually overtaken by urban sprawl and became satellites or bedroom towns instead of alternative poles of development.

In 2005, the Government launched the Jawaharlal Nehru national urban renewal mission to

- improve and augment the economic and social infrastructure of cities;
- ensure basic services to the urban poor, including security of tenure at affordable prices;
- initiate wide-ranging urban sector reforms; and
- strengthen municipal governments and their functioning.

The program, initially intended to run for 7 years and to cover 63 cities, had two sub-missions: to provide urban infrastructure and governance and to extend basic services to the urban poor (Tewari, Raghupathi, and Ansari 2007).

A recent review of the Jawaharlal Nehru National Urban Renewal Mission program indicated that the choice of the cities covered was balanced and reasonable in the light of India's ethnic and cultural diversity. However, it was noted that the program does not include a scheme for cities with populations between 500,000 and 4 million. It was also noted that difficulties in the program's efforts to pursue local governance reforms, land and property reforms, and environmental reforms were experienced, although it attempts to achieve financial sustainability and improve the plight of the urban poor. The program has limited provisions for comprehensive development

of city regions. All master plans in India, as well as zoning codes, housing standards, and land use regulations, are confined to formal city boundaries.

One limitation of the Jawaharlal Nehru National Urban Renewal Mission is that funds allocated to the program are insufficient for the magnitude of tasks it sets out to achieve. Estimates of costs for urban infrastructure and services range from $100 billion to $320 billion by 2010 (October 2006, Infrastructure Conference in Delhi). Expenditures for all types of infrastructure in India have been estimated at $21 billion per year, which is only about 3.6% of GDP. About 2.8% of GDP devoted to infrastructure and services comes from the Government, and only 0.8% from the private sector (Vats 2007).

Barriers to City Cluster Development in India

Now that the Government recognizes how serious the country's urban problems are, the time is ripe to adopt a development strategy that uses urban centers as engines of economic growth and social transformation. Such a strategy may consider a CCD approach to spark development in a number of regions. To pursue a strategy focused on CCD, however, India has to confront four barriers. First is India's cultural and ideological commitment to rural development as the primary objective of governance. Second is the rural residents' strong attachment to land, which makes its conversion to urban development extremely difficult. Third is the tradition of local autonomy, which is reflected in the decentralization measures embodied in the 73rd and 74th amendments to India's constitution. Fourth is the country's political objective of fostering development in all parts of the country rather than concentrating it in a few urban areas with limited resources.

Commitment to rural development. India's strong commitment to rural development is an integral part of the country's history. The policy can be traced to Mahatma Gandhi's ideal of developing the country's villages through local initiative and self-help. The pro-rural and anti-urban bias held by many Indian officials may also be related to India's bitter experience with colonization, when cities became the exclusive base of Western colonizers and served as the ports from which the country's wealth was shipped. Finally, more than two thirds of India's population makes its living from agriculture, and the rural vote is assiduously courted by politicians.

For various reasons, many Indian officials adhere to the belief that the problems of the cities can be solved only by developing the countryside. They argue that improving conditions in villages by providing jobs, clean water, electricity, schools, and health services will encourage people to stay down on the farm. Conversely, providing infrastructure and housing in cities will only make them more attractive to rural–urban migrants, who will swell already congested slums and squatter communities. These officials propose that if India were to pursue a development policy, it should focus on the development of small towns that will serve the needs of India's rural inhabitants (Ganapathy 1984).

The persistence of strong pro-rural and anti-urban sentiments in India is surprising because research shows that rural and urban sectors in the country are closely interlinked in a complementary economic and social relationship. For example, a recent study of urban consumption and production patterns affirmed the "integration between urban and rural India" and warned against "falling back on traditional myths about the urban–rural divide." Using an econometric approach, the study found that an increase of Rs100 in urban consumption could lead to an increase in rural household incomes of up to Rs39. The study also projected that a sustained urban household's consumption growth rate could lead to 6.3 million new nonfarm jobs in rural areas and $91 billion additional real rural household income over 10 years (Purushothaman, Bandyopadhyay, and Roy 2008).

Strong attachment to land. In India, which is still largely agricultural, most people have an almost-mystical attachment to land. The pursuit of an urban-led development strategy, therefore, has to contend with strong objections from farmers and their political supporters to converting agricultural land into urban uses. In recent years, farmers have raised strong objections to the establishment of special economic zones (SEZs) in greenfield areas. There have been violent incidents, including a police killing some farmers who were protesting against "land grabbing" for the establishment of an SEZ in Nandigram, West Bengal. In January 2007, farmers in Midnapur, near Kolkata, barricaded the roads leading to their village to protest the establishment of an SEZ spearheaded by the Salim Group of Indonesia. In October 2007, some 25,000 farmers marched more than 320 km to Delhi to protest their displacement from their lands for Chinese-style SEZs. The marchers were supported by top Government officials, including a minister who said

that it is not right to break "the sacred right between the tiller and the land" (Chakraberia 2007).

Local autonomy. An urban-led strategy demands area-wide cooperation among local government bodies within a city cluster. However, policies on decentralization and local autonomy are enshrined in the 73rd and 74th amendments to the Indian constitution. Urban local government bodies are strongly attached to a corporate structure that vests a great deal of power in local councils, mayors, and commissioners. Local officials jealously guard their autonomy and resist the setting up of economic projects, such as special economic zones, that may undermine their authority. As a journalist who observed that India cannot just follow the Chinese example of setting up special economic zones wrote: "Unlike China, democratic India cannot raze down townships and evict citizens just so foreign investors can set up manufacturing units on the cheap" (Sharma 2007).

Fostering development in all parts of the country. Because the resources for urban development in India are limited compared to the huge demand, some economists and urban specialists have proposed an approach that focuses on just a few city clusters. However, as the world's largest democracy, India has traditionally focused on meeting the demands of local political leaders throughout the country rather than concentrating investments in a few areas. Thus, the Government has invested heavily in a national road network that in 2002 reached 3.31 million km and a national rail system that had 63,122 km of rail lines. India has also improved access to improved water sources in rural and urban areas, making clean water accessible to 86% of its citizens.

The Indian urban development approach is in sharp contrast with that of the People's Republic of China (PRC), which, unlike India, has pursued a selective urban-led strategy since 1979. Heeding the observation of Deng Xiaoping (general secretary of the communist party, and later chairman of the Central Military Commission of China Communist Party) that "it is all right for some people to become rich faster than others," the PRC has concentrated infrastructure and other investments in 6 special economic zones, 14 coastal cities, 15 trade zones, 32 economic and technological zones, and 53 high-tech industrial development zones in medium-sized cities. This concentrated urban strategy has contributed to the country's double-digit rate of economic development during the past

28 years. On the negative side, it has widened the gap between urban and rural areas, coastal and inland cities, and the rich and the poor. It has also contributed to the PRC's serious cases of environmental pollution. The main policy issue facing India's leaders, therefore, is whether they are willing to accept similar costs as the price of a higher rate of economic development.

Mitigating and Overcoming Barriers to City Cluster Development

With the adoption of the Jawaharlal Nehru national urban renewal mission in 2005, India signified its intention to use an urban-led strategy to enhance its economic and social development. A CCD approach can be a key component of such a strategy provided some of the barriers noted above are effectively dealt with. Measures for dealing with the barriers include

- concentrating infrastructure investments in a few selected urban areas to achieve economies of scale and agglomeration;
- providing infrastructure investments in city clusters;
- picking cities whose governments have proven track records of managing projects efficiently, effectively, and in an accountable and transparent manner;
- making private sector participation a key component in projects;
- including capacity building in each project, especially in the areas of comprehensive planning, resource mobilization, and project management; and
- focusing on inclusive development approaches that improve the living conditions of poor people and disadvantaged groups.

Concentrating infrastructure investments in a few city clusters. The limited resources in India for pursuing an urban-led development strategy require concentrating urban infrastructure in only a few selected city clusters instead of attempting to cover the whole country. While a democratic system demands a policy of "growth with equity," spreading meager resources too thinly (as reflected in the plan to set up 764 special economic zones [SEZs] over the whole country) will not create the economies of scale, location, and agglomeration that are necessary for rapid economic growth.

This is one of the key lessons learned from the urban-led strategy of the PRC, in which the Government concentrated investments in only a few sites along the eastern coastal region, then moved on to the west interior territory. This concentration helped ensure that the SEZs and other development enclaves would have sufficient infrastructure and services to make them function well. Political leaders in India may respond to requests to set up small SEZs in local areas to ensure political support, but if resources are insufficient to adequately finance these SEZs, they may never become viable.

Providing infrastructure and services in area-wide initiatives encompassing city clusters. As a corollary to concentrating urban investments in a few selected areas, it may be useful for the Government to focus on city clusters that can be developed in an area-wide way to achieve maximum synergy in the provision of urban infrastructure and services. In choosing city clusters for planned development, the Government of India may use the following criteria:

- the population of the various local government units within a cluster;
- the geographical scope of a city cluster (ideally, the size of the cluster's territory should not exceed the distance covered by a vehicle traveling along a radial artery for 1 hour from the center of the main city);
- the development potential of the local economies in the cluster, with emphasis on the presence of high-tech industries, manufacturing, cultural heritage, and tourism sites;
- the presence of institutions of higher education and research centers that can enhance CCD;
- the availability of urban infrastructure and services that can support CCD;
- the availability of financial, material, and human resources to support CCD;
- the commitment of local leaders to sustainable economic, social, and environmental development; and
- previous experience of leaders in formulating and executing a comprehensive development plan. If a city cluster has a positive rating in all the criteria mentioned above, it easily qualifies as a CCD site.

Picking local government units with good potential for city cluster development. City clusters selected as urban-led develop-

ment sites may include a range of local government units. Such clusters may have a megacity at one end and a small city surrounded by towns, districts, and villages at the other. A cluster located close to a megacity can benefit from the development momentum generated by a large city, while a cluster surrounded by smaller urban settlements might help spark development in surrounding rural areas. It is important to choose city clusters in which local leaders are fully committed to development, possess the professional and managerial capabilities to run complex projects, and have a solid reputation for honesty and transparency. Because of the important role foreign and domestic investors play in urban development, the project sites must have features that are attractive to them, including good location, reliable and sufficient supplies of energy, efficient urban services, and a competent and reliable workforce. The presence of projects funded by various donors (by both bilateral and multilateral agencies) in the cluster is important because funds invested in the projects can be leveraged to attract more resources.

The application of modern information technology is an excellent indicator of the potential of an area for CCD. For example, Hyderabad and surrounding districts in Andhra Pradesh have set up E-Seva Model,[1] which make it possible for people to transact business services with some 13 state and local government agencies, 3 central government agencies, and 9 private organizations. Started as a pilot project in the Hyderabad–Secunderabad cluster in 1999, the project is now expanded to 43 one-stop service centers in the two cities in 2000 and to another 220 centers in 117 municipalities in 2004. By going to any one of these service centers, people can pay their utility bills, get birth and death certificates, pay property and local taxes, make train and bus reservations, file and receive passport applications, and even transfer shares of stocks (World Bank 2006b). The existence of such a network of service centers, of course, can serve as an initial basis for area-wide operations in a city cluster.

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[1] Integrated citizen service centers are one-stop shops using information technology. It is worth noting that the E-Seva Model in Andhra Pradesh is the result of a public–private partnership, which gives it sufficient financial resources to rapidly expand its services. The public–private partnership arrangement has also provided good management skills and technical capacity, including the use of information technology that has contributed to E-Seva's efficiency. E-Seva is so efficient that paying a utility bill takes only 1 minute and getting a license or certificate takes 3 minutes. Run as a private–public enterprise, the project has signed service agreements with local government bodies and client agencies, which has increased accountability and transparency in the local government bodies.

Building private sector participation into city cluster development schemes. Most local government bodies in India are heavily dependent on fund transfers and grants-in-aid from the states and the central government for both capital investment funds and current operating expenditures. In the mid-1990s, an expert group on the commercialization of infrastructure projects was formed by the Government to study and make recommendations on how the private sector might be tapped for financing infrastructure development. In the fiscal year 2002/2003, the Government announced the establishment of two incentive funds for urban reforms at the state and city and municipal levels, the urban reform incentive fund and the city challenge fund. Urban local bodies were allowed to raise funds through methods such as the issuance of tax-free municipal bonds and public–private collaboration in running pooled financing schemes. The Ministry of Urban Development adopted administrative measures to encourage public–private partnerships in financing and managing urban infrastructure and services. The Government also allowed local governments to provide incentives such as tax exemptions, tax holidays, unlimited repatriation of profits abroad, and exemption from customs duties and other charges for the importation of equipment and other resource inputs. These were designed to attract higher levels of foreign direct investment in infrastructure development for special economic zones and other development enclaves. An important reform measure designed to encourage private sector participation was granting to local government bodies and private entrepreneurs the authority to collect user charges on urban infrastructure and services.

Enhancing capacity building and institutional development. Assistance from the Jawaharlal Nehru national urban renewal mission has been tied to the promulgation of administrative and governance reforms that would enhance the capacity of local government bodies (LGBs) to manage urban development projects. Among these reforms are efforts to improve the revenue-raising capacity of LGBs by computerization of land registers; the shift from single-entry, cash-based accounting systems to double-entry accrual systems; and the preparation and distribution of an accounting manual to be followed by LGBs. A number of LGBs have been trained in the use of geographic information systems and provided with equipment to improve the collection of data for comprehensive planning and collection of real estate taxes. In 2004, a national urban information

system was launched to improve LGB capabilities in planning and urban management. To improve the capacity of LGBs in land management, the Urban Land Ceiling and Regulation Act was abolished at the state level. The rent control law was amended to remove rent controls and stimulate private investment in rental housing. The law on the real property tax system was revised to make real property taxes the main revenue source for LGBs, setting the target that collection efficiency should reach 85% by the end of the Tenth Five-Year plan period.

An aspect of the Government of India's reforms with special significance for CCD is the requirement that all LGBs prepare formal city development plans. At present, all city development plans for the 63 LGBs covered under the Jawaharlal Nehru national urban renewal mission scheme are available as public documents. LGBs are also required to prepare regular progress reports on their development activities, and the Government has made the submission of such reports a prerequisite for receiving funds from the Jawaharlal Nehru national urban renewal mission. Institutional arrangements have also been set up to monitor and evaluate the performance of LGBs.

Integrating inclusive development in city cluster development projects. The 74th amendment to the Indian constitution mandates that all states in the country should have elected municipal bodies and specifies that at least one third of the positions in the elected government staff should be allocated to women and disadvantaged groups. It also stipulates that in formulating city and municipal budgets, specific funds should be earmarked for the urban poor and requires that 20–25% of all developed land should be devoted to housing that is affordable to poor and disadvantaged citizens.

Potential Sites for City Cluster Development Initiatives

Using the selection criteria proposed in the study, the following city clusters in India are proposed for CCD initiatives:

- the Bangalore–Tumkur–Mysore cluster in Karnataka state,
- the Pune–Pimpri–Chinchwad cluster in Maharashtra,
- the Coimbatore–Tirupur cluster in Tamil Nadu, and
- the Dehradun–Haridwar–Rishikesh cluster in Uttarakhand state.

The Bangalore–Tumkur–Mysore City Cluster

The Bangalore–Tumkur–Mysore city cluster in Karnataka State is one of the fastest-growing urban regions in India. Bangalore (or Bengaluru) has an estimated population of 6.5 million, which is projected to increase to 7.9 million by 2015. Tumkur, with 248,592 inhabitants (2001 census), is about an hour-and-a-half drive from Bangalore. It is the capital of Tumkur district, which has a population of 2.5 million. Mysore, the second-largest city in Karnataka, has a population of 799,208 (2001 census) and is about 140 km from Bangalore. It is a popular tourism center and has evolved into an information technology hub. The city also has excellent academic institutions, including Mysore University, which has 53,000 students in 127 colleges on campuses in the city and four other districts. With the acceleration of economic development in the Bangalore–Tumkur–Mysore city cluster, the state of Karnataka has invested heavily in infrastructure and services. The Bangalore–Tumkur highway is the first access-controlled road in the region. Using a public–private partnership funding approach, the expressway has reduced the travel time from Bangalore to Nelamangala to an hour.

Bangalore has become world famous as a center of information technology (IT). In 2006–2007, its IT companies accounted for one third of India's $32 billion in IT exports. Bangalore's economy in 2002–2003, worth $60.5 billion, was the fourth-largest in the country, and its average per capita annual income of $1,160 in 2003 was the highest among Indian cities. In fact, Bangalore is home to about 60,000 individuals who are classified as super rich in India. Despite the city's wealth, however, its rapid growth has created serious urban problems. The city suffers from traffic gridlock and severe air pollution. Although it has an adequate supply of water, shortages occur, especially during the summer months. The city generates about 3,000 tons of solid waste per day, but only 1,139 tons (37.9%) are collected and the rest are dumped in open spaces or on roadsides outside the city. Roughly 10% of Bangalore's population lives in the slums, and the sharp contrast in the lifestyles of the abject poor and the super rich spoils the developed image of the city.

One factor that makes the Bangalore–Tumkur–Mysore a good candidate for CCD is Karnataka State's good record in conducting successful urban reforms. For example, the Karnataka State Road and Transport Corporation (KSRTC) has conducted management reforms since 1996 that broke up the former monolithic transport organization into smaller units to make it more manageable and efficient. KSRTC was divided into four corporations, starting with

the Bangalore Municipal Transport Corporation in 1997. KSRTC modernized its fleet of buses (Volvo air-conditioned vehicles) that served the important Bangalore–Mysore corridor. Although the company increased fares four times in 3 years, the public continued to patronize it because of the added efficiency, comfort, and convenience it offered. A computerized reservation system was expanded to include some 115 private agents who work on a revenue-sharing basis, and reservation counters were opened even in remote districts. (World Bank 2006b). ADB's North Karnataka urban investment program project (Loan 2312) is ongoing.

The Pune–Pimpri–Chinchwad Cluster

The Pune–Pimpri–Chinchwad cluster in Maharashtra state has great potential for CCD because it is near the megacity of Mumbai, which is only about 150 km away. Pune, with an area of 700 km^2 and a population of 4.5 million, is the eighth-largest agglomeration in the country and the second largest in the state. The Pune urban area consists of a cluster of cities, including Chinchwad and Pimpri, that are managed by their own municipal corporations. The cluster also includes three cantonments and adjoining semi-urban areas. Pune is a major industrial center and is sometimes called the "Detroit of India" because it is home to one of the world's largest manufacturers of two-wheeled vehicles (Bajaj). Tata Motors, India's largest manufacturer of passenger cars and commercial vehicles, and DaimlerChrysler which makes Mercedes Benz vehicles, have plants in Pune. In recent years, Pune has developed a strong presence in the software industry with the establishment of high-tech parks. In this, it benefits from the presence of several well-known universities that has earned it the nickname the "Oxford of India."

Maharashtra state has an excellent reputation for urban management that can be tapped for CCD initiatives. One of the most successful reforms carried out in the state was the transformation of the Stamps and Registration (S&R) Department from a reputedly corrupt and inefficient agency into an efficient and responsive one. In India, the registration of high-value land transactions still follows the antiquated Indian Stamp Act (1899) and Registration Act (1908). The implementation of the provisions of the two acts was traditionally linked to corruption, for example, the use of fake stamps, the undervaluation of amounts involved in land transactions, and widespread bribery of S&R officials. In Maharashtra, the reform of S&R operations started in 1998 with computerization of department transactions. A detailed and transparent property valuation

table was formulated to reduce the discretionary authority of land registration officers that provided opportunities for rent seeking. Well-defined standards on what constituted a completed land registration transaction were instituted, and a limit of 24 hours was set for completing and returning a land registration transaction to a customer. A public–private partnership venture was set up for the training of S&R staff and for the installation of computers, scanners, printers, and other equipment in 360 S&R offices across the state. In 2002, the service was decentralized to eight divisions, and a computerized land registration system was simultaneously opened in 360 S&R offices throughout the state (World Bank 2006b).

The Coimbatore–Tirupur Cluster

The Coimbatore–Tirupur cluster is a rapidly developing city region in the state of Tamil Nadu. Coimbatore, also known as Kovai, is a major industrial center; it covers 105 km^2 and has a population of 1.9 million. It is mainly known for its textile factories, engineering firms, and automobile parts manufacturing. Located about 50 km east of Coimbatore is the city of Tirupur, which has a population of 800,000. Tirupur is also a center of textile manufacturing; it specializes in hosiery, knitted garments, casual wear, and sportswear. The reputation of the two cities in the field of textiles manufacturing makes the area an excellent candidate for CCD.

Tamil Nadu is one of the most progressive states in India; it ranks third among the country's states in terms of its human development index. The state has a literacy rate of 73.4% compared with 65% for all of India. Its educational system is also excellent; 99.8% of the teachers in its primary schools are trained; there is one teacher for every 37 pupils. Health services in Tamil Nadu are better than in other states; 79.3% of mothers give birth in health care facilities, and 88% of children between the ages of 1 to 2 years having received the required vaccinations. The state has run a universal cheap food program through a public food distribution system since 1977, a nutritious midday meal program for preschool and primary school children since 1982. It also runs the Tamil Nadu integrated nutrition project and the integrated child development scheme, both of which greatly contribute to children's welfare. A World Bank study attributes the accomplishments of Tamil Nadu to a reformist ideology among state officials, open and transparent politics, a willingness and ability to use information and communication technology in government operations, and an active civil society that exerts pressure on the government for social and economic reforms (World Bank 2006b).

The Dehradun–Haridwar–Rishikesh Cluster

Tourism development at a number of sites in India offers a good opportunity for CCD. The city of Agra, for example, with its fabled Taj Mahal, can be further developed for tourism along CCD lines. In fact, a bilaterally funded scheme is already implementing a water supply project in the city that will improve its tourism capabilities. Varanasi (Benares), a religious pilgrimage site considered holy by Hindus, Buddhists, and Jains, is another excellent site for CCD initiatives. The city has been a cultural and religious center for thousands of years, and an estimated 1 million pilgrims visit it each year. Unfortunately, both Agra and Varanasi are located in states that many regard as poorly governed. Evaluations of two internationally funded projects in the state of Uttar Pradesh (the Ganga river action plan and the Yamuna river action plan), for example, showed that they have been largely unproductive.

A city cluster worth developing as a religious pilgrimage and tourism center is the Haridwar–Dehradun–Rishikesh cluster in the new state of Uttarakhand (formerly known as Uttaranchal) some 230 km north of Delhi. According to Hindu mythology, Haridwar is one of four sites where drops of the elixir of immortality (Amrita) were accidentally spilled by the celestial bird Garuda. Because of this myth, millions of pilgrims and devotees flock to Haridwar, especially during the celebration of the Kumbha Mela, when they take ritualistic baths in the river Ganges. Haridwar covers 2,360 km^2 and has a population of 1.4 million. Another religious center in the cluster is Rishikesh, 24 km from Haridwar, which has been called the "Yoga Capital of the World." It is the gateway to the upper Garhwal region and the starting point for pilgrim routes to the four *dhams* (sacred shrines) of Uttarakhand. Aside from being a religious center, Rishikesh is a popular starting point for Himalayan treks.

Dehradun (also spelled Dehra Doon), the capital city of Uttarakhand, is where the sacred Ganges and the Yamuna pass as they flow down from the Himalayas. It has a population of 447,808 and one of the highest levels of per capita income in India ($1,800 per year compared with $800 for the whole country, 2001 census) because of remittances from former residents who now live abroad. The city is a center of education and learning, which has sparked the establishment of special economic zones and information technology parks. With the construction of the Delhi–Dehradun four-lane highway, the economic development of the city region has been taking off. Infrastructure investments in water and sewerage, energy generation and distribution, roads and transport, and solid waste collection

and disposal will greatly accelerate the city cluster's development in the near future. Most important, since the creation of the state of Uttarakhand and its separation from Uttar Pradesh in 2000, the new state leadership has been energetically pursuing a development strategy for the state.

Using Special Economic Zones for City Cluster Development

As has been discussed, special economic zones (SEZs), industrial parks, export-processing zones, bonded customs zones, and other high-tech development enclaves have been used as effective instruments for pursuing CCD. India has used SEZs and other schemes to generate development in specific areas. In fact, SEZs had been set up in India long before they were launched in the PRC. As early as 1965, at a time when the PRC was still caught up in the turmoil of the Cultural Revolution, the Kandla export processing zone opened near Ahmedabad. Between 1965 and 2000, a total of 19 SEZs were established in India: five in Tamil Nadu, three in Gujarat, three in West Bengal, two in Rajasthan, two in Uttar Pradesh, and one each in Andhra Pradesh, Kerala, Madhya Pradesh, and Maharashtra. In April 2000, the Government of India adopted an SEZ policy designed "to provide an internationally competitive and hassle-free environment for exports." The zones were designated "duty-free enclaves" and were deemed to be "foreign territories" for the purposes of trade operations, duties, and tariffs.

By the end of 2007, the Government of India had formally approved 404 SEZs in 23 states. Another 167 received approval in principle, and 193 were notified that their schemes were under consideration. This amounts to a total of 764 SEZs for the whole country. Some SEZs that have been formally approved are the Navi Mumbai SEZ in Maharashtra state, which covers 10,000 hectares (ha), including 1,850 ha earmarked for a regional park zone; the Positra SEZ in Gujarat State, which covers an area of more than 20,000 ha; and the Dronagiri SEZ in Maharashtra, with 4,337 ha. In all of the SEZs, master plans and feasibility studies have been or are in the process of being prepared; in some cases, detailed project reports are also being prepared. Of the SEZs that have received formal approval, 62% are devoted to information technology and its trade and engineering applications. The rest of the SEZs are devoted to biotechnology, pharmaceuticals, textile manufacturing, and other fields. Of those approved in principle, about 35% are focused on multiple products.

Despite the Government's approval of the SEZ policy, a number of political leaders are committed to a rural-oriented ideology and have expressed strong objections to SEZs. For example, in West Bengal, some Communist Party leaders have objected to the setting up of SEZs because they would displace small farmers. Organized peasant groups have also demonstrated, at times violently, against what they referred to as "land grabbing" by the Government and foreign investors. The high-tech nature of most Indian SEZs can create problems for rural people who will be displaced when their farms are converted to urban use. Even if the farmers are well compensated for their land, because of their low levels of education and lack of technical skills, they will not be qualified for jobs in the SEZs, unless massive retraining and education programs are incorporated into the development schemes of the SEZs.

Strong objections to converting rural land into SEZ have forced the Government to change its SEZ policies. In 2007, the Government put a moratorium on the approval of new SEZs. In addition, a ceiling of 5,000 hectares was set as the maximum size for SEZs. State governments in India were prohibited from entering into joint ventures with private SEZ promoters, often the most important sources of capital, managerial expertise, and technological know-how in other countries, and were prohibited from assisting private SEZ promoters in acquiring land. Finally, those who object to SEZs have questioned what they called "exorbitant and unjustified tax concessions" to developers investing in SEZs. They argue that SEZs should not be regarded as mere earners of foreign exchange, that the monetary value of their exports should be limited to an amount equal to that of the goods they purchase from local economy (Sharma 2007).

India's difficulties in setting up SEZs do not bode well for the adoption of an urban-led strategy for developing the country. The strong objection to the conversion of agricultural land for setting up SEZs is a major drawback because in most successful SEZs, for instance, those set up in the PRC, land has been the main input of local governments in establishing the SEZs. Because of the limited amount of land allocated to SEZs in India, it has been proposed to limit the size of Indian SEZs to 5,000 hectares. Such small SEZs will most likely not be viable because they will not benefit from the economies of scale and agglomeration so necessary for sustained urban development. In addition, limited financial resources will make it difficult to provide the urban infrastructure and services to so many small SEZs.

Probably the most serious problem in India's SEZ policy is the large number of zones scattered all over the country. Most of the 764 SEZ projects approved or under consideration are small-scale enclaves located in villages. Most of them involve one developer and are focused on a specific industry (only 5% of formally approved projects and 35% of those approved in principle are multiproduct ventures). In contrast, SEZs in the PRC are few, and are very large undertakings. The large scale of the SEZs in the PRC, mostly located along the eastern coastal region, and their location adjacent to very large cities, makes CCD possible; these are considered the main reasons for their success. Because of the small scale of the SEZs in India, the volume of such infrastructure and services as energy generated, roads built, and water and sanitation systems provided will most likely not have a significant enough impact to spark economic development. Allocating small amounts of funds to a great number of SEZs and responding to the demands of local leaders may be good strategies for getting political support, but it is unlikely to spark CCD in India.

Conclusion and Recommendations

The Jawaharlal Nehru national urban renewal mission urban reforms carried out in India since 2005 provide opportunities for launching CCD as part of the country's urban-led development strategy. While not all of the state and municipal governments in India are ready or able to pursue CCD initiatives, some state governments, notably those in Gujarat, Karnataka, Kerela, Maharashtra, and Tamil Nadu, have achieved significant success in implementing urban reforms. Since the leadership of and financial support from state governments are necessary to carry out an urban-led strategy, choosing cities and city clusters in these progressive states will enhance the prospects for successful CCD initiatives.

Among the guidelines proposed in the study for choosing potential CCD sites, a record of successful implementation of urban sector reforms by state and municipal officials should be accorded top priority. Strong leadership provided by at least one local official is a key to success, particularly if such leadership reflects entrepreneurial capabilities that can energize the whole governance system to experiment with creative programs. Collaborative government efforts such as the provision of water and sanitation on a regional level or the existence of road and transportation networks that serve all cities in a cluster are excellent indicators of CCD potential. The financial capabilities of local government bodies in a city cluster are

also important factors to be considered in choosing a CCD site. The existence of a vibrant economy, as reflected in industry clusters, high-tech development enclaves, tourism activities, and trade and commerce, is a necessity for CCD. The presence of renowned academic and research institutions that can provide professional and technical inputs to industrial and commercial activities is also an important element to be considered when choosing CCD sites.

As ADB pursues its newly adopted long-term development strategy, it should consider setting up CCD-type projects in India. In doing so, it should consider the following recommendations:

- ADB efforts to pursue CCD in India should be carried out in close collaboration with the Jawaharhal Nehru national urban renewal mission, which has the official mandate, financial resources, and leadership, personnel and technical capabilities to carry out urban development initiatives.
- In collaboration with Jawaharhal Nehru national urban renewal mission and other urban development institutions in India, ADB should mount a number of observation and study tours and substantive workshops so that selected high-level Indian officials can visit countries such as the PRC, Singapore, Malaysia, and Viet Nam to see CCD-type projects.
- ADB should conduct in-depth seminars and workshops in India on CCD and such related issues as private sector participation, comprehensive development planning, and intersectoral provision of urban infrastructure and services. Such seminars and workshops may take the form of actual project development efforts through which high-level officials from India are introduced to the concept of CCD, instructed in specific planning and financing methods, and encouraged to formulate and develop projects and programs for pursuing CCD in a specific city cluster.
- ADB should provide technical assistance funds for carrying out in-depth studies of city clusters with the potential for CCD. Such studies may be conducted by international consultants, but they should also be carried out with the active partnership of local academic and research institutions and local planning and consulting firms that have in-depth knowledge of local situations.
- A particularly important study that may be supported by ADB is an evaluation of SEZ policies, programs, and

projects in India, with a view to assessing their usefulness as instruments for pursuing CCD initiatives. It would also be useful to compare SEZs as instruments of development in India and the PRC, to assess the advantages and disadvantages of each country's approach.

- ADB should carefully document the process of formulating and implementing CCD schemes and publish and disseminate the results of monitoring and evaluating such efforts. The published reports should highlight lessons learned in pursuing CCD, for the information and guidance of others interested in CCD processes.

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City Cluster Development: Toward an Urban-Led Development Strategy for Asia

Planning for development in rapidly urbanizing Asia requires a fresh look. This book analyzes emerging urbanization patterns and explores the potential of city cluster development in Asia. City cluster development takes into account the provision of infrastructure and services in connection with spark potentials of economic growth and dispenses with the urban–rural dichotomy of traditional development planning, recognizing that urban centers are not only hubs for economic growth but also service centers for surrounding areas. Based on the review of how city clusters form and develop, this book explores strategic planning framework for city cluster development and includes some cases of possible city cluster development in India.

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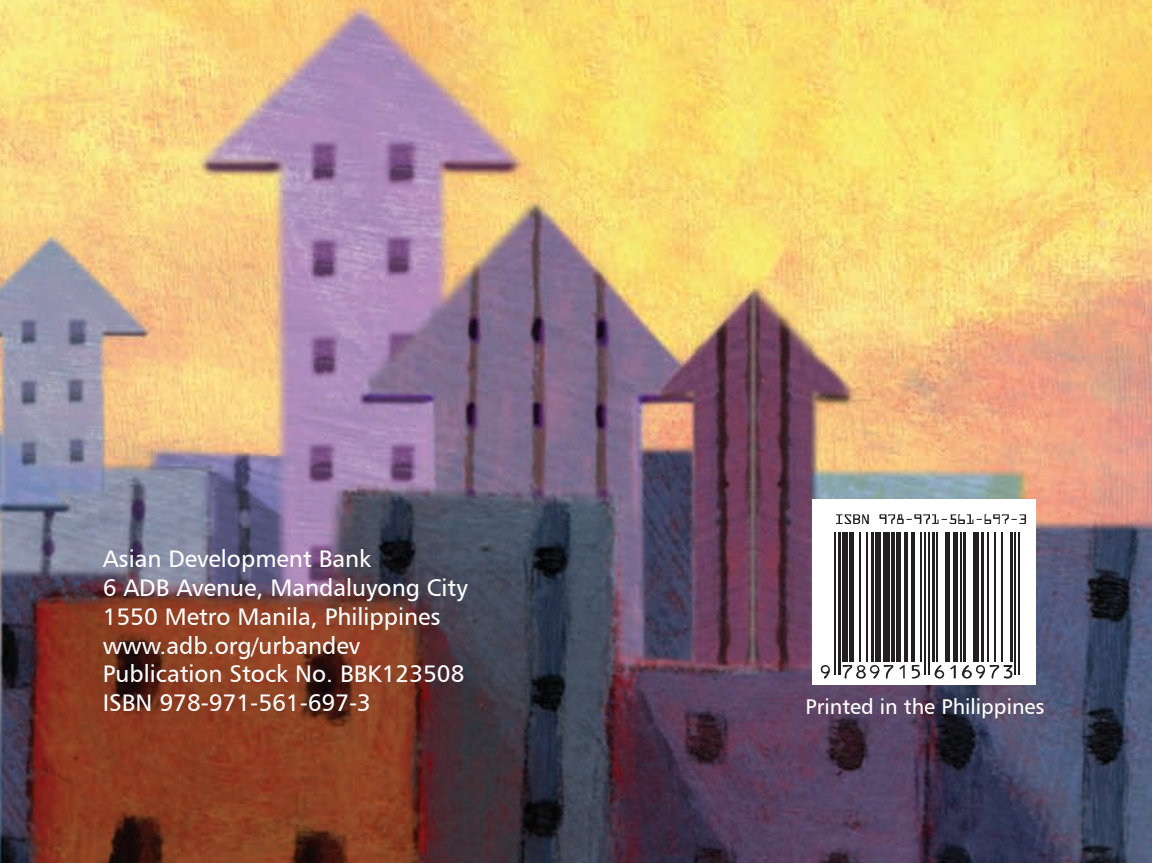

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org/urbandev
Publication Stock No. BBK123508
ISBN 978-971-561-697-3

ISBN 978-971-561-697-3
9 789715 616973

Printed in the Philippines