2. Urbanization and Sustainability in Asia

BRIAN ROBERTS AND
TREVOR KANALEY

THE SCALE AND SCOPE OF URBANIZATION

Urbanization in Asia is proceeding at a scale that is unprecedented in human history. This creates many challenges, especially about how—in a sustainable way—to feed, shelter, and generate employment for an estimated 1.1 billion people projected to be added to the population of Asian cities in the next 25 years. Given the weakness of governance structures, the appalling environmental conditions that already exist in many cities, and existing infrastructure and service shortfalls, meeting the needs of these people appears an almost impossible task for many nations in Asia.

Urbanization is also causing problems for rural development. There is a growing loss of productive agricultural land to peri-urban development and urbanization is increasing pressures for structural reform in agriculture. The benefits that larger cities offer in opportunities for higher education, health services, employment, and higher wages are making it difficult for rural areas to compete and attract skilled persons to support development. The challenges in achieving more balanced and sustainable urban and rural development in Asian countries are enormous, but they are not insurmountable.

In 1950, some 733 million people, or 29% of the world's population, lived in urban areas. By 2005, the urban population had grown to an estimated 3,172 million or 49% of the population. By 2030, it is estimated that 4,945 million people—almost 61% of the world's population—will be urban. The urban population is set to increase by more than 55%, or 1,770 million, in the next 25 years while the rural population is estimated to decline by 3% or 96 million. Between 1950 and 2030, the population of the world will change from about 70% rural to 60% urban (Table 2.1).[1]

Developed countries are already highly urbanized. Their most rapid urban growth took place over a century ago. Population and economic dynamics in developing countries and particularly in Asia are now driving the process of urbanization. While in some respects urbanization today is not much different to urbanization in the past, what is unprecedented is the absolute size of the change—the number of countries undergoing rapid urbanization, the number of cities that are growing rapidly, and the sheer number of people involved (World Resources Institute 1996).

In Asia in 1950, some 232 million people, or 17% of the population, lived in urban areas.[2] Over the following 55 years to 2005, the urban population grew nearly sevenfold to an estimated 1,562 million, 40% of the population. By 2030, it is estimated that 2,664 million people, or almost 55% of the population in the Asia region, will be urban, representing an increase of over 70% or 1,100 million in the next 25 years (Table 2.1). Over this same period, the rural population is expected to decline by 6%, or 133 million. Almost all future population growth in Asia will be in towns and cities.

While the urbanization process is occurring in virtually all developing countries, it is now centered on Asia. Less-developed regions of the world are projected to account for 1,664 million or over 90% of world urban popu-

Table 2.1: Urbanization Trends in Asia, 1950–2030

	GDP per capita	Population	Urban Population	Proportion Urban			Estimated Increase in Urban Population	
	(PPP, $) 2003	(million) 2005	(million) 2005	(%) 1950	(%) 2005	(%) 2030	(million) 2005–2030	(%) 2005–2030
World		6,453.6	3,172.0	29	49	61	1,772.7	56
Asia		3,917.5	1,562.1	17	40	55	1,102.2	71
Malaysia	9,512	25.3	16.5	20	65	78	10.8	66
Thailand	7,595	64.1	20.8	17	33	47	14.6	70
PRC	5,003	1,322.3	536.0	13	41	61	341.6	64
Philippines	4,321	82.8	51.8	27	63	76	34.8	67
Sri Lanka	3,778	19.4	4.1	14	21	30	2.4	59
Indonesia	3,361	225.3	107.9	12	48	68	80.0	74
India	2,892	1,096.9	315.3	17	29	41	270.8	86
Viet Nam	2,490	83.6	22.3	12	27	43	24.5	110
Pakistan	2,097	161.2	56.1	18	35	50	79.3	141
Cambodia	2,078	14.8	2.9	10	20	37	5.8	197
Bangladesh	1,770	152.6	38.1	4	25	39	48.4	127
Lao PDR	1,759	5.9	1.3	7	22	38	2.3	177

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, PPP = purchasing power parity, PRC = People's Republic of China.

Sources: United Nations, *World Population Prospects*: *The 2002 Revision*; *World Urbanization Prospects: The 2003 Revision*; and United Nations Development Programme, *Human Development Report 2005*.

lation growth in the next 25 years to 2030.[3] Some 66% of this urban population growth in less-developed regions will occur in Asia.

Aggregate population data are dominated by the impact of the two largest countries, the People's Republic of China (PRC) and India. These countries account for 19% and 15%, respectively, of projected total world urban population growth during 2006–2030 and for 31% and 25%, respectively, in Asia. The 12 countries in Asia considered in this book—Bangladesh, Cambodia, PRC, India, Indonesia, Lao People's Democratic Republic (Lao PDR), Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam—together account for 915 million, or over 50% of projected total world urban population growth to 2030, and for over 80% of urban population growth in Asia.

In Asia, there are wide differences in the urbanization experience both between and within countries. This is illustrated by the differences in the extent of urbanization and projections for the future between the 12 countries considered in this book. In general, there is a strong relationship between urbanization and economic development. Higher-income countries are generally more urbanized than lower-income countries, and urbanization increases more rapidly with economic growth in lower-income countries than in higher-income countries. Of the countries considered, Malaysia has the highest gross domestic product (GDP) per capita and the highest percentage of urban population. Bangladesh, Cambodia, Lao PDR, Pakistan, and Viet Nam are at an earlier stage of the urbanization process but are projected to have the largest increases in their urban populations (more than 100%) over the 25 years to 2030.

For all countries considered here, but particularly for the most populous countries—PRC, India, and Indonesia—country data hide large regional variations; there are regions that are very heavily urbanized and other regions still predominantly rural. Also, within countries, population growth rates of cities vary widely (Table 2.2). Growth rates of the largest cities are often relatively modest. It is the smaller and intermediate-sized cities that are frequently experiencing rapid population growth and these are also often the most poorly resourced to accommodate this growth. Even within cities, growth is not uniform: it is often on the periphery, sprawling into neighboring areas, and/or in spontaneous and unintended squatter settlements.

The evidence on the population growth of urban centers suggests that medium-sized cities in the order of 500,000 to 2 million will experience the highest urbanization rates in the future. Growth rates in larger cities can be expected to be slow both as a natural outcome of the arithmetic of growth—as city size expands, increasingly larger additional numbers are required to maintain the growth rate—and as congestion and environmental conditions make very large cities less attractive places to live. Also, as cities grow, most of the growth will occur in the peri-urban areas due to easier availability of

Table 2.2: City Size and Population Growth (For Capital Cities and Urban Agglomerations with 750,000 Persons or More in 2000)

City Size	PRC			INDIA			INDONESIA		
	Cities	Av. Annual Growth		Cities	Av. Annual Growth		Cities	Av. Annual Growth	
	(No.)	(%) 2005–2010	(%) 2010–2015	(No.)	(%) 2005–2010	(%) 2010–2015	(No.)	(%) 2005–2010	(%) 2010–2015
0–0.5 million	126	1.80	1.91	157	2.04	2.18	14	2.38	2.47
0.5–1 million	127	2.03	2.08	45	2.45	2.36	10	2.78	2.54
1–5 million	93	1.25	1.45	33	2.79	2.52	5	2.78	2.45
Over 5 million	4	0.77	1.04	7	2.30	2.12	1	3.19	2.46

Av. = average, no. = number.
Source: UN, *World Population Prospects: The 2002 Revision and World Urbanization Prospects: The 2003 Revision.*

land and to price and land tenure arrangements acting to restrict redevelopment of older inner city areas.

URBANIZATION ISSUES

Urbanization and the Economy

The tremendous growth of urban areas has been brought about by complex technological and economic interrelationships that have redefined the spatial landscape. Urbanization has been driven by an ongoing technological revolution that has seen the rapid growth of industrial and service industries whose productivity is enhanced by agglomeration economies and economies of scale found only in a concentrated spatial environment and, conversely, by increasing agricultural productivity that has reduced the demand for rural labor. The predominant market-based economic system provides the drive and direction to urbanization and the main means of distributing benefits and costs.

A deep well of agglomeration benefits accrue to governments, businesses, households, and individuals in a spatially concentrated, urban environment that cannot be captured in a rural setting. Those who have tried to reverse or restrict the urbanization process have consistently underestimated these.

Urban environments provide high density, spatial proximity, which has led to

- growing markets;
- access to information, capital, and research and development;
- labor markets with deep pools of talent;

- high value-added productivity;
- high and more secure wages and incomes;
- low unit costs for infrastructure and public services;
- an increase in taxable capacity, from which additional public resources can be mobilized and infrastructure services paid for; and
- increased competition and, paradoxically, reduced risk.

The competitiveness of different urban locations varies greatly and is always in flux; the relative costs and benefits for any particular enterprise of a particular location are almost constantly changing. Importantly, the choice of locations of industrial enterprises, which were central to much urban growth in the past, was much less flexible than for more modern, service-based industries. A steel or textile firm is costly to move and tends to stay. Knowledge-based service businesses, such as accountancy or information technology firms, are far more mobile.

Increasingly, economic globalization is changing the relative competitiveness and growth prospects of different urban locations. Economic activity tends to concentrate where integration into the global economy is easiest—where there is access to communications technology, international capital markets, globally integrated value chains of production and distribution, and information-based industries in such areas as accountancy, law, and research and development.

Globalization has resulted in both less regulation of industry and, in such areas as trade, investment, and intellectual property, more universal standards of regulation. As a result, location decisions depend less on the particular country and more on the comparative advantages of different cities. This creates a unique juggling act for city management. Less-affluent cities tend to compete on the basis of cheap labor costs and the low costs of environmental regulation, which are important for attracting manufacturing and resource-based industries. As cities become more affluent, the availability and quality of environmental goods become increasingly significant, particularly as means to attract urban professionals in the service sector. Reconciling this tension is important if cities are to develop a broad economic base and have rising levels of productivity and income.

A consequence of the relentless pursuit of location competitiveness is a shift from a focus on national development to a focus on the development of subnational urban region economies. This is changing the role and culture of urban governance. The role of urban governance is shifting from service delivery to strengthening location competitiveness by fostering production, investment, and growth of the private sector. Urban regions that offer the greatest competitive advantage have continued to develop, increasing in size

and income. They have evolved into often very large conurbations and attract the greatest share of national and foreign investments. The less competitive parts of countries have been left struggling to catch up, especially in more remote secondary city regions that have generally poor infrastructure and limited skilled persons and resources.

Studies on the flow of investment show large disparities in the levels of investment in regions of the developing countries of Asia. Many poorer urban regions lack the basic infrastructure and support services necessary for them to attract business and investment and create new industries. They have been unable to compete for investment and business nationally and globally. These regions have become poverty traps with very limited development prospects. A major challenge facing the rapidly urbanizing developing countries of Asia is to ensure that the benefits of urbanization are sufficiently widespread.

Urbanization in Asia is both driven by and supports economic growth. Asia, with the exception of 1998, has been the fastest-growing economic region in the world for several decades and this has been underpinned by large-scale urbanization. There is every reason to believe that these interrelated trends will continue. During 2006–2015, real GDP per capita in the East Asia and the Pacific and South Asia subregions is projected to grow at an average annual rate of 5.3% and 4.2%, respectively.[4] Over the same period, the urban population in Asia is expected to increase by 27% (or 428 million) to 1,990 million.

Economically dynamic urban areas are central to the economies of nation states and to future economic growth. They are the production houses of wealth and the cradle for innovation, trade, and productivity growth. As a result, urban areas account for a disproportionate share of national economic production (Table 2.3). Agriculture's share of GDP is relatively small and has been in long-term decline; the predominantly urban share of GDP—comprising industry and services—is relatively large and rising. In the 12 countries considered in this book, the urban share of GDP accounts for 50–90% of total GDP. Moreover, while city per capita output ("city product") for selected cities varies widely, it is generally much higher than the country's per capita gross national product. It is over 342% higher in Bangkok and 236% higher in Jakarta. The ability of urban areas to continue to improve productivity holds the key to growing urban populations with higher wages and incomes and improving living standards.

Global Sustainability

Urbanization and economic growth in Asia are important at the global level because their scale has global consequences.

Table 2.3: Urbanization and Economic Output

Country	Urban Share of GDP 2004 (%)	City	City Product Per Capita 1998 ($)	GNP Per Capita 1998 ($)	Increase in City Product Per Capita over GNP Per Capita 1998 (%)
Bangladesh	79	Dhaka	500	255	96
Cambodia	64	Phnom Penh	699	260	169
PRC	85				
India	78	Chennai	547	341	60
Indonesia	83	Jakarta	1,932	575	236
Lao PDR	51	Vientiane	340	320	6
Malaysia	90	Penang	4,237	3,093	37
Pakistan	77				
Philippines	86	Cebu	1,277	1,050	22
Sri Lanka	83	Colombo	43	823	-95
Thailand	90	Bangkok	9,553	2,160	342
Viet Nam	78	Ho Chi Minh	898	310	190

GDP = gross domestic product, GNP = gross national product.
Source: United Nations Human Settlements Program and World Bank databases.

Asia comprises 60% of the world's population. The PRC and India, the world's most populous countries, account for about 34% and 28% of Asia's population and 20% and 17% of total world population, respectively. Rapid economic growth affecting such large countries and huge numbers of people inevitably alters the geopolitical landscape and existing bilateral power relationships. It also affects the global economy by increasing aggregate demand, international trade, and capital flows, and causing structural adjustments in both developing and developed economies. A good example is manufacturing, with Asia increasingly—and developed countries decreasingly—the source of global manufactured goods. Growth in Asia is, to a significant extent, underpinning growth in the world economy and has improved global standards of living overall.

The global environmental consequences of this spectacular growth in Asia are less benign. Increased production and consumption are driving energy usage, carbon dioxide emissions and other forms of pollution, and the degradation of scarce resources, such as water supplies, forests, and agricultural land. While there is much debate, there is real doubt whether the earth's ecological systems can accommodate the developing world's drive toward developed countries' production and consumption patterns using existing resource-intensive technologies.

One example is energy usage and carbon dioxide emissions. In 1990, Emerging Asia[5] was estimated to contribute 15% to total world energy

consumption.[6] By 2002, this had increased to 22% and is projected to increase to 31% by 2025. Overall energy consumption in Asia is projected to increase about threefold between 1990 and 2025 and will contribute almost 50% of the growth in total world energy consumption. The PRC alone will contribute about 30% of this growth. The major energy sources in Asia are coal, oil, and natural gas and demand from Asia is affecting the availability of supplies and prices paid.

Energy consumption and carbon dioxide emissions are closely related because of Asia's reliance on fossil fuels. As a consequence, carbon dioxide emissions in Emerging Asia are projected to increase from 18% of total world carbon dioxide emissions in 1990 to 35% in 2025. Emissions of carbon dioxide—one of the most prevalent greenhouse gases and at the center of climate change negotiations—are projected to increase by about 250% in Emerging Asia between 1990 and 2025. Asia will contribute about 56% of the growth in total world carbon dioxide emissions over this period; the PRC will contribute 34%.

Another rapidly emerging global problem is access to water: "even without climate change, the number of people impacted by water scarcity is projected to increase from 1.7 billion today to 5 billion by 2025" (World Resources Institute, 2005).

Issues of ecological sustainability and climate change do not respect national borders and have impacts regionally and globally. Left unaddressed, they have the potential to undermine the world economy and global security and, ultimately, human habitat. Bringing many issues of global sustainability to a head is the rapid growth of developing Asia. For example, total primary energy consumption in 2002–2025 is estimated to increase at 3.5% per annum in Emerging Asia, but only 1.1% per annum in the mature market economies. Developed countries' share of total energy consumption will decline from 52% to 42% over the period while Emerging Asia's share will increase from 21% to 31%. Nevertheless, total energy consumption is and will remain heavily concentrated in the developed countries both in total and per capita because of their high-consumption patterns and relatively small share (15%) of world population.

Maintaining ecological sustainability requires global initiatives and changes in technology, policies, and consumption patterns. Such initiatives should also provide for economic growth, rising standards of living, and reductions in poverty in Asia and the rest of the developing world.

Problems of ecological sustainability, at least initially, will often have greater impact on developing nations because developed countries are buffered by their more robust and sophisticated infrastructure and services, including emergency relief services. Developing countries tend to be highly

exposed, particularly among the poor, because of their high dependence on natural resources and more limited capacity to adapt to environmental change. For example, climate change effects are projected to include rising average temperatures, rising sea levels, and more extreme weather patterns and events. Among other things, these will exacerbate flooding and problems in housing, drainage, water supply, and sewerage already prevalent in Asian cities, with negative impacts for public health and particularly the poor.

Problems of urbanization and economic development in Asia are bringing to a head global issues of ecological sustainability. If projected rapid development is realized over the next 25 years, these issues will be pushed further to the fore on the international agenda. While at the country level, issues of urbanization and economic development are the responsibility of national governments, their international ramifications will ensure that the global community has a strong self- interest in more sustainable development. Priorities and practices will have to change in Asia and elsewhere in the developed and developing world to accommodate sustainability considerations; however, where the costs of adjustment will fall and who will pay is less clear. The international architecture to address these issues is still being developed. Nevertheless, one can confidently predict it will result in increased funding from international development institutions for ecologically sustainable development activities, driven by the strong national interest of developed countries.

Land[7]

The extent of land used for urban purposes in Asia is unknown, but is in the vicinity of 100,000 square kilometers (km^2). The land needed to accommodate the 1.1 billion people expected to be added to Asian cities by 2030 as a result of population growth and declining average population densities in Asian cities will be enormous. The decline in urban densities is brought about by rising incomes and increasing willingness and ability to pay for "space," and by changing demographics and reductions in average household size.

Data on land used for urban purposes are poor, and there is frequently conflicting information based on different definitions of urban area and urban land. A particular problem is the urban boundary and the extent to which semi- or peri-urban areas, which include expanded villages and towns, constitute parts of cities and urban metropolises. Many peri-urban areas are transition zones in the process of conversion into intensive urban use. Such problems result in significant differences in the literature, with varying statistics on urban population, densities, and extent of urban areas.

Estimating likely land requirements is further complicated by poor data on land conversion rates, especially for secondary cities, and by inadequate information on the likely impact of increasing incomes on demand for land. Any average figures hide large variations between countries and cities.

There are significant variations in urban densities between Asian cities. Some differences are attributable to such factors as differences in income levels, transport infrastructure, government intervention, culture, geography, and the methods used to measure urban density.

Urban densities calculated on municipal areas for the countries considered in this book range from 39 people per hectare (pph) in Coimbatore, India, to 378 pph for Mumbai (Table 2.4). However, Angel et al. (2005) note that densities based on municipal areas can be misleading because terrain and other factors related to land use result in significant differences in calculating and reporting urban densities.

Urban densities based on the measurement of built-up areas are a more accurate measure of land used for intensive urban purposes and "compactness" of cities. Under this measure also there are significant differences in the built-up area population densities for large cities in Asia. The built-up area population density in Asian cities ranges from 24 square meters (m^2) per person in Mumbai to 148 m^2 in Fukuoka, Japan. These measurements, however, can also be misleading because the urban footprint of cities includes open spaces not suitable for or designated for urban purposes (e.g., hills, floodplains, military areas, and airports) and the treatment of peri-urban areas remains a problem.

Annual growth rates in the area of land used in Asian cities from 1990 to 2000 ranged between 1.9% for cities like Cebu in the Philippines and 14.7% for Yigang in the PRC. Average annual urban area growth rates appear to be around 5.5%. However, there are significant methodological issues in calculating growth rates of urban areas and there are wide differences between cities. The average annual urban area growth rate for cities with less than one million people appears to be around 5.3%. The urban growth rates of megacities of more than 5 million are in the order of 4%. Between 1990–2000, the urban area of Mumbai expanded annually at 3.1% and Manila, 4.5%; however, the urban area of Guangzhou grew at 8.1%. The growth rates in urban areas of medium-size cities with populations of 1–5 million are around 5.7%. Kuala Lumpur urban area grew by 6.2% and Bandung 5.4% between 1990–2000.

The population and housing densities in Asian cities are continuing to decline, as in most other cities around the world. Angel et al. (2005) estimate that global urban densities are declining at an annual rate of 1.7%, suggesting that total urban areas globally will increase from 200,000 km^2 to 600,000 km^2 by 2025. Asian urban densities are falling at a faster rate, 2–5% per annum, depending on the country and the size of cities. The density in Bandung, Indonesia

Table 2.4: Urban Densities in Selected Asian Cities (Person per Hectare Gross)

City	Country	Population ('000)			Built-up Area (km^2)			Average Density (person/ha)		
		1990	2000	Increase (% pa)	1990	2000	Increase (% pa)	1990	2000	Increase (% pa)
Cities in selected Asian countries										
Anging	PRC	1,003	1,055	0.5	54	78	3.6	186	135	-3.0
Bacolod	Philippines	462	510	1.3	13	33	12.3	343	155	-9.8
Bandung	Indonesia	2,942	3,628	2.2	109	182	5.4	271	199	-3.1
Cebu	Philippines	1,118	1,524	3.0	54	66	1.9	206	231	1.1
Changzhi	PRC	1,160	1,254	1.2	104	156	6.4	111	104	-1.1
Coimbatore	India	552	613	1.1	99	156	4.7	56	39	-3.4
Guangzhou	PRC	7,712	13,156	5.5	452	979	8.1	171	134	-2.4
Hyderabad	India	4,888	5,708	1.3	167	302	5.1	293	189	-3.6
Jaipur	India	2,116	2,779	2.5	59	141	8.3	360	197	-5.4
Jalna	India	445	556	2.1	11	25	7.5	395	223	-5.0
Kanpur	India	1,124	1,442	2.3	34	60	5.4	110	79	-2.9
Kolkota	India	6,646	7,834	1.7	288	484	5.3	231	162	-3.5
Kuala Lumpur	Malaysia	2,733	4,959	5.0	383	805	6.2	71	62	-1.2
Leshan	PRC	608	670	0.9	75	146	6.4	81	46	-5.1
Manila	Philippines	14,044	17,335	2.4	444	660	4.5	316	263	-2.0
Mumbai	India	14,224	17,070	2.1	344	451	3.1	413	378	-1.0
Puna	India	3,510	4,042	2.1	93	191	11.0	379	211	-8.1
Rajshahi	Bangladesh	491	600	1.8	11	20	5.8	452	296	-3.8
Saidpur	India	503	596	1.4	9	16	5.5	564	366	-3.9
Songkhla	Thailand	220	244	1.0	14	19	3.0	159	129	-1.9
Vijayawada	India	981	1,117	1.3	40	62	4.5	244	179	-3.0
Yigang	PRC	1,108	1,135	0.5	49	100	14.7	227	114	-12.4
Summary results for all selected Asian cities										
Maximum				5.5			14.7	564	378	1.1
Minimum				-1.2			1.6	47	38	-12.4
Average				1.7			5.5	218	153	-3.4
Median				1.5			5.1	185	153	-3.0

ha = hectare, km^2 = square kilometer, pa = per annum, PRC = People's Republic of China.
Source: Angel et al. 2005.

fell from 271 pph in 1990 to 199 pph in 2000 or 3.1% per annum. Urban densities appear to be falling most rapidly in cities in India, at annual rates exceeding 4%. In the PRC, the rates appear to be about 3%. The lack of good urban data on Asian cities precludes more reliable estimates of these changes.

Falling urban densities and the increase in the urban population will mean a much greater demand for urban land in Asian cities in the future.

Growth rates for land will increase and an additional 175,000 km^2 of land for urban purposes may be necessary by 2030 (if average densities fall to 100 pph, close to those of Singapore). This more than doubling—and possibly almost tripling—of urban land for cities in Asia over the next 25 years poses very significant environmental, economic, and social challenges, not least of which are the protection, where possible, of prime agricultural land and the very large investment required in infrastructure and services. Other problems include inefficiencies and distortions in land markets, often unclear land tenure arrangements, and often poorly developed land-use planning policies and practices of local government authorities.

For each city, there are two key questions for urban government and public policy: what is likely to be the scale of future land requirements, and what actions can be taken now to best ensure that urban land is supplied efficiently and effectively?

Arguments that maintaining the compactness of Asian cities is necessary to achieve more sustainable development outcomes may not hold true. By itself, stabilizing urban densities will not reduce the high levels of overcrowding, pollution, traffic congestion, and environmental health problems prevalent in many cities. Also, seeking to create more compact cities will most likely increase land costs. This would decrease the affordability of housing and minimize levels of public open space, while having little impact on speculative and lifestyle use of land in peri-urban areas that is reducing agriculture production (Clark and Tsai 2005).

Uncertainty over land tenure and urban planning and management compounds the problem of land development in Asian cities. Most Asian countries have failed to manage urban land development. Speculation and uncertainties over development and building approvals and tenure add to the unpredictability of urban development in Asian cities. The failure of land tenure and administration systems has led to uncertainty over land rights, coupled with high levels of ownership disputes and illegal occupation of land. This results in the inefficient operation of land and property markets, excessive speculation, and high levels of litigation, especially in countries like the Philippines.

Issues of urban land development, urban density, compactness, and the efficiency of land use present very significant challenges for the management and sustainability of Asian cities. The preference for lower density lifestyles, as incomes rise and opportunities for choice grow, will not change. The way urban governments in Asia plan and manage the future form of their cities and regulate land and property markets will have a profound impact on the sustainability of development outcomes. Good-practice solutions are emerging and sharing these will be important to improving the sustainability of urban development in the region.

Shelter

Housing, like land supply and management, has important sustainability issues for Asian cities. The total housing stock of Asian cities is unknown, but is in the order of 300 million permanent and temporary structures used for habitation. More than 40% of the urban population in Asia live in substandard housing. Most dwelling units are overcrowded with little more than 6 m^2 of floor space per person. Sanitation, access, and lack of reliable water and electricity supply are acute problems facing many urban areas.

With the exception of Singapore, no country in Asia has solved its housing problems. Public housing programs have failed to deliver adequate low-income housing and are not affordable on the scale required from the public purse. In many cases, the elite, armed forces, police, and senior public servants have been the main beneficiaries of public housing programs. Promising low-cost housing schemes funded by development partners have not been sustainable. Cooperative housing has worked in some countries, but by and large has not been widely adopted by urban communities to meet housing needs.

Housing maintenance is another major problem for Asian cities. Many houses are built without a permit, with substandard materials, often on land without secure title, and with problems such as periodic flooding. Houses remain vulnerable to risks associated with natural hazards, political vendettas, and protection racketeering. These conditions create enormous uncertainties in housing markets. They undermine the possibility of homeowners using land and housing as collateral to support investments in business enterprises and reduce the incentive to undertake maintenance of dwellings to increase their longevity and habitability.

The demand for housing in Asia will continue to grow with rising incomes and population growth. The expected fall in average household size—from 4.8 to below 3.5 persons per house—will exacerbate this demand. Household size is falling as a result of declining fertility rates and average family size, an aging urban population, and with the increasing ability of young couples, with rising incomes, to purchase or rent a dwelling independent of the family home.

The implication of these socioeconomic changes is that an additional 400 million dwellings will be needed in Asia by 2030, requiring large and increasing investments in housing and ancillary infrastructure and services. There will also be a need to upgrade or replace more than 150 million dwellings of the existing housing stock.

Infrastructure

Perhaps the most challenging problem facing Asian cities is meeting the demand for urban infrastructure to provide access to good quality, affordable,

and reliable services. The current demand for infrastructure and services far outstrips supply in most Asian cities; governments are investing far too little in infrastructure, and this is undermining economic growth, private sector development, and the achievement of social and poverty reduction goals.

One example of the demand for infrastructure is for electricity generation and distribution capacity. Electricity consumption in Emerging Asia was 1,259 billion kilowatt-hours (kWh) in 1990. This increased by 131% to 2,914 billion kWh in 2002. Electricity consumption is projected to increase by a further 159% to 7,552 billion kWh by 2025, with 60% of this growth from the PRC and 18% from India (Energy Information Administration 2005). There are also major existing shortfalls in supply. The World Bank has noted that the high-growth coastal provinces of the PRC have recently begun to experience power shortages and that business surveys in India show that shortcomings in electricity service are identified as the greatest obstacle to business operation. The World Bank estimates that Indonesia alone will need 2,000–2,500 megawatts of new installed capacity annually to sustain a 6% growth rate (World Bank 2005a).

Meeting this demand for electricity in Asia will require massive, ongoing expansion of electricity infrastructure. It will also have important global and domestic environmental consequences and will be a major contributor to the projected growth in world greenhouse gas emissions. However, failure to meet this demand will slow economic growth and associated employment growth and could potentially stall improvements in standards of living and the reduction of poverty.

Numerous World Bank and Asian Development Bank (ADB) reports detail the shortfall in Asia in infrastructure needed for services, such as road access, sanitation, water supply, solid waste management, electricity, and telecommunications. The World Bank estimated that the infrastructure investment needed to keep up with projected growth in the developing world is equivalent to about 5.5% of developing countries' GDP annually and that the public sector in developing countries, which on average provides about 75% of all infrastructure investments in their countries, is spending only 2–4% of GDP on infrastructure investment (World Bank/IMF 2005).

The current demand for infrastructure and maintenance in East Asia has been estimated in a recent ADB/World Bank/Japanese Development Bank study (ADB 2005) at $165 billion per year in 2006–2010, compared with an estimated $147 billion per year in 2000–2005 (Table 2.5). The study considers the infrastructure sectors—electricity, telecommunications, major paved interurban roads, rail routes, and water and sanitation. According to the study, "this amounts to nearly 6.2% of the GDP for the region, comprising 4.0% for investment and 2.2% for maintenance. Furthermore, the PRC alone

Table 2.5: Infrastructure Investment and Maintenance in East Asia, 2006–2010

	Investment ($ million)	Maintenance ($ million)	Total ($ million)	Investment (% GDP)	Maintenance (% GDP)	Total (% GDP)
Electricity	63,446	25,744	89,190	2.4	1.0	3.4
Telecom	13,800	10,371	24,171	0.5	0.4	0.9
Roads	23,175	10,926	34,102	0.9	0.4	1.3
Rail	1,170	1,598	2,768	0.0	0.1	0.1
Water	2,571	5,228	7,799	0.1	0.2	0.3
Sanitation	2,887	4,131	7,017	0.1	0.2	0.3
Total	107,049	57,998	165,047	4.0	2.3	6.3

GDP = gross domestic product.
Source: Yepes 2004.

is expected to account for 80% of infrastructure expenditures in the region. Among the sectors, electricity in the PRC has the largest share (44%) of total annual expenditure in infrastructure in the region."

When the demand for infrastructure for the rest of Asia is also considered, the total requirement for infrastructure investments in 2006–2010 may well be in the order of $250–300 billion per annum. None of these estimates include provision of infrastructure for private investment purposes. While the breakup of future investments into urban and nonurban infrastructure has not been attempted, most of these investments will play a role in supporting cities and towns. Many large-scale "urban" infrastructure projects, such as electricity generation plants and dams for water supply, are usually constructed in nonurban areas, while road and rail investments connect cities and are vital to urban growth by improving the flow of goods and services.

The reasons for underinvestment in infrastructure in Asia and elsewhere in developing countries are complex. Infrastructure investments are often large and unevenly spaced, and have long-term benefit flows and financial and maintenance implications. Their planning, financing, tendering, construction, and maintenance require relatively sophisticated, well-coordinated governance arrangements and technical capabilities. While economic rates of return are often high, such large investments are difficult for governments—like many local and regional governments in Asia—whose fiscal position is stretched by poorly controlled expenditures and underperforming tax bases and user charges. Affordability of services is also an important issue along with appropriate tariffs/user charges and, where necessary, subsidies for the poor. Ultimately, however, if infrastructure were to be successfully provided and maintained, projects must be technically and financially viable, with user charges that, in aggregate, cover the cost of service provision.

The failure to plan and invest in urban transport infrastructure has created significant traffic management and logistic problems for Asian cities. The following quote shows the importance of planning and protecting infrastructure corridors from development to ensure that future transportation needs of cities can be met.

> *Bangkok, the capital of Thailand, provides an important lesson for cities the world over. In the mid-1980s, Bangkok was a model of a well-functioning land and housing market with minimal, if any, public regulation. Affordable and minimally serviced land was brought into the market by the efficient creation of a minimal number of narrow tertiary roads that connected building plots to the existing road system; mortgages became widely available; and private developers went down-market in large numbers, selling land-and-house packages that were affordable for more than half the urban households. But public sector plans, investments, and regulations did not keep up with the private sector, with the result that no adequate system of secondary roads was put in place. As a result, Bangkok quickly became one of the most congested (and polluted) cities in the world. The cost of reducing congestion in Bangkok is now higher—by one or two orders of magnitude—from what it would have been had adequate rights-of-way been secured earlier (Angel et al. 2005, 102).*

Another problem is access to investment funds. The problem is not so much the availability of finance—although the total amounts for infrastructure, housing, land development, etc., are enormous—but the ability of local governments to mobilize resources and access these funds successfully. This problem is closely linked to the financial performance of both the projects and governments noted above. Central governments frequently regulate the access of local and regional authorities and special-purpose authorities to loan funds and capital markets, both for macroeconomic and local authority financial capacity reasons. Unsurprisingly, central governments are particularly wary when the provision of such funds involves any form of central government guarantee of repayment. Capital markets also act to inject some financial prudence by normal requirements for risk management through credit ratings of the entity seeking to raise capital. Overall, the ability of governments in Asia to access investment funds and provide infrastructure will only be improved by strengthening their capacity and financial performance, along with improvements in regulatory frameworks.

Investments by the private sector in urban infrastructure and service provision are part of an effort to help fill the investment gap and reduce the finan-

cial pressures on city governments, while achieving improved project financial (and on occasion technical) performance. The private sector accounts for about 20% of total annual infrastructure investment in developing countries, primarily in the communication and energy sectors (World Bank/IMF 2005). Private sector investment in infrastructure in developing countries is particularly strong in Asia. While there are various modalities of public/private partnerships for infrastructure and service provision, such arrangements are proving increasingly popular because they can increase access to investment funds and distance governments from the fiscal discipline and sometimes from political problems of cost recovery, operation, and maintenance. Their successful operation, however, still requires that governments have the technical and financial expertise to negotiate and monitor appropriate contractual arrangements successfully.

One of the greatest challenges facing infrastructure in Asia is the lack of maintenance. There is a propensity for governments and private service providers to build infrastructure, but to give inadequate attention to maintenance and repairs. Consequently, infrastructure systems incur high losses, which add to the cost of services. Compounding the problem is the lack of "as-built" plan records, showing the location of urban infrastructure services. Damage to services as a consequence is high, with services frequently damaged when new utility services are laid over or under other services.

A further problem affecting the efficiency of infrastructure provision in many Asian countries is corruption and the lack of transparent processes across the project chain. The scale of corruption can vary from major abnormalities in tendering processes, to inadequate supervision of construction standards, to small- scale omissions in billing and collecting user charges. Corruption can occur throughout the project chain, raising costs, affecting the affordability of services, and undermining community support for government. It also acts to undermine the investment climate by reducing access to both domestic and international funds.

Social Change

It is important to reflect on urbanization as more than a technological or economic process. It is also a social transformation.

The growth of cities occurs through both migration and the natural increase of the urban population. Migration to cities mainly reflects economic disparities among regions and countless separate decisions by individuals and families to take action to change their way of life to better their position and prospects. Urban areas offer the prospect of an improved standard of living. The advantages to rural people include better employment prospects

through broader labor markets, often higher and more reliable wages even in the informal sector, and greater access to education, health care, water supply and sanitation, and entertainment. This is reflected in usually higher life expectancy and lower infant mortality. Even the urban poor often have more opportunity and less risk than their rural cousins. People are making more or less rational decisions to improve their lot. Increasingly, with the growth of cities, the major source of population increase inevitably shifts to the natural increase of the urban population.

Rapid economic growth and urbanization have seen a remarkable transformation in Asian societies. Large urban agglomerations are increasingly the centers of social and economic activity: the places where people live. In the 12 countries considered in this book, there are now 9 megacities with populations of 10 million or more, 9 urban agglomerations with populations of 5–10 million, 144 with populations of 1–5 million, and 197 urban agglomerations of 500,000–1 million.

Adjustments for individuals and families have been immense: migration, new labor market and skills requirements, problems in accessing housing, on occasion new language requirements and the need to adapt to culturally foreign and more liberal religious customs, and the ongoing rapid evolution of the social and cultural milieu. Urbanization is testament to the optimism, flexibility, and adaptability of mankind. Inevitably, some people have been better able to adjust and take advantage of the new opportunities in urban areas than others. While overall and over time the welfare impacts for most individuals and households have been overwhelmingly positive, Asia remains a region of enormous disparity in income levels, living standards, and socioeconomic conditions.

Poverty

Economic growth and urbanization have made major inroads into the incidence of poverty in Asia. The number of people living on less than $1 a day in Asia declined from more than 930 million to about 650 million during 1990–2002 (World Bank 2006) (Table 2.6). Moreover, if current projections of economic growth and urbanization are realized, further reductions will follow. By 2015, the number of people living in absolute poverty on less than $1 a day in Asia is estimated to decline to 246 million, mostly living in South Asia. Poverty, however, will still remain a major social problem with large aggregate numbers still in absolute poverty and more than 1,200 million people in 2015 living on less than $2 a day.

While poverty in Asia will tend to remain worse in rural areas, urban poverty is becoming an increasingly critical issue, with some different attri-

Table 2.6: Estimates of Regional Poverty in Asia

	People Living on Less Than $1 Per Day (million)			People Living on Less Than $2 Per Day (million)		
	1990	**2002**	**2015**	**1990**	**2002**	**2015**
East Asia and the Pacific	**472**	**214**	**14**	**1,116**	**748**	**260**
PRC	375	180	11	825	533	181
Rest of East Asia and the Pacific	97	34	2	292	215	78
South Asia	**462**	**437**	**232**	**958**	**1,091**	**955**
	Percentage of people living on Less than $1 per day			**Percentage of people living on Less than $2 per day**		
	1990	**2002**	**2015**	**1990**	**2002**	**2015**
East Asia and the Pacific	**29.6**	**14.9**	**0.9**	**69.9**	**40.7**	**12.7**
PRC	33.0	16.6	1.2	72.6	41.6	13.1
Rest of East Asia and the Pacific	21.1	10.8	0.4	63.2	38.6	11.9
South Asia	**41.3**	**31.3**	**12.8**	**85.5**	**77.8**	**56.7**

Source: World Bank. 2006. *Global Economic Prospects - Economic Implications of Remittances and Migration*. Washington, DC. Table 1.3, and p. 9.

butes to rural poverty. Urban poverty is characterized by unemployment, lack of skills, and unequal access to infrastructure services. As demonstrated in the Asian financial crisis, it is particularly sensitive to movements in economic conditions. The urban poor live predominantly in low-quality housing without legal land tenure in squatter settlements on the periphery of cities and within cities in concentrated, overcrowded slums. Sites are often subject to flooding, landslides, and pollution. The urban poor are subject to forcible eviction, have poorer health, and inadequate access to electricity, health services, clean water, and sanitation.

In many urban areas, aggregate numbers of people living in poverty are increasing, along with the gap between rich and poor. Regional equity is also becoming an important issue, with large variations in wealth and services between subnational urban economies. Poverty is a potentially explosive social and political issue. Economic growth and urbanization have been and will continue to be central to reducing deprivation in Asia, but increasingly there will be the need for targeted poverty reduction policies and programs within and between urban areas.

Environmental Issues

In Asia, the combination of economic growth, the very rapid spatial concentration of people and economic activity in urban areas, and the inability of governance to provide the necessary regulatory environment and infrastructure

services have resulted in the deterioration of the environment. Many environmental problems do not confine themselves to the administrative boundary of the urban area or of the city and have detrimental consequences for adjacent rural areas and further afield. Table 2.7 shows a range of environmental indicators for selected Asian countries.

Problems of the urban environment are the result of

- *consumption patterns*: rising incomes have resulted in growing demand for all types of goods and services. Problems relate to issues as diverse as the demand for potable water and the use of agricultural land for urban water catchments; to urban land requirements and threats to forests and biodiversity; to the explosion in demand in Asia for motor vehicles, resulting in unacceptably high levels of suspended particulate matter and traffic noise and congestion; to rapidly increasing electricity consumption and global problems of greenhouse gas emissions;

Table 2.7: Environmental Indicators

Countries Ranked by Descending GDP per Capita (PPP $, 2003)	Percent of Urban Population			Electric Power Consumption	Total Energy Use from all Sources (Kg of Oil Equivalent)		Carbon Dioxide Emissions
	Living in Slum Conditions	Using Improved Water Source	Using Improved Sanitation				
	2001	2002	2002	2002	2002	1991-2001	2000
	%	%	%	Kwh per capita	Kgoe per capita	% Change	Metric tons per capita
Malaysia	2	96	n.a.	2,832	2,129	97	5.4
Thailand	2	95	97	1,626	1,353	63	2.8
PRC	38	92	69	987	960	30	2.7
Philippines	44	90	81	459	525	49	1.0
Sri Lanka	14	99	98	297	430	41	0.6
Indonesia	23	89	71	411	737	52	1.4
India	56	96	58	380	513	40	1.0
Viet Nam	47	93	84	374	530	59	0.6
Pakistan	74	95	92	363	454	44	0.7
Cambodia	72	58	53	n.a.	n.a.	n.a.	0.0
Bangladesh	85	82	75	100	155	62	0.2
Lao PDR	66	66	61	n.a.	n.a.	n.a.	0.1

n.a. = data not available, GDP = gross domestic product, kg = kilogram, kWh = kilowatt-hour, kgoe = kilogram of oil equivalent, Lao PDR = Lao People's Democratic Republic, PPP = purchasing power parity, PRC = People's Republic of China.

Sources: World Bank. 2005. *World Development Indicators 2005*. Washington, DC; and World Resources Institute. 2005. *World Resources 2005: The Wealth of the Poor—Managing Ecosystems to Fight Poverty*.

- *resource-intensive technologies*: expanding industrial output relies on high resource inputs, including for energy from coal, oil, and natural gas;
- *governance and institutional weaknesses*: these inhibit the development of effective environmental regulations and their enforcement, and the generation of adequate revenues to fund environmental services; and
- *rapid spatial concentration of people and economic activity*: the supply of environmental services, such as water supply, drainage, sanitation, and solid waste management, has been unable to keep up with the pace of urbanization.

Most cities in Asia have in common environmental problems related to

- safe drinking water and sanitation and associated health problems from waterborne diseases;
- solid waste collection and management, contributing to blocked drains and flooding and, in some cases, leaching of toxic chemicals;
- drainage of low-lying areas;
- endemic traffic congestion;
- air pollution from industry and vehicles and from burning coal and biomass for domestic cooking and heating, causing respiratory and other health problems; and
- waterways polluted by domestic and industrial effluents with minimal or no treatment.

With further expansion, environmental conditions in Asian cities will worsen if infrastructure shortfalls widen. The technical solutions to provision of most environmental services are well known, but can only be implemented through increased infrastructure investment and better maintenance. This requires effective urban governance.

Table 2.7 lists the countries considered in this book by descending order of income per capita. In general, countries with high per capita income, such as Malaysia and Thailand, have high levels of housing, water, and sanitation services, while poorer countries are less well-served. Conversely, the countries with higher per capita incomes have high levels of consumption of environmental resources, as shown in high energy use and carbon dioxide emissions, compared with poorer countries, such as Bangladesh and Pakistan. As the incomes of countries increase, environmental problems resulting from resource consumption increase, while environmental problems resulting from a lack of environmental services and weak institutional capacity decline.

Cities not only provide jobs for their inhabitants, they also provide their habitats. Environmental problems result in increased morbidity and impaired health, increased financial costs for urban residents—such as lengthy travel times to work—and reduced urban amenity. They also impose significant costs on businesses and overall economic activity due to impaired productivity. These costs range from employee work absences due to illness, to congestion costs in moving goods and services, to the impairment of whole industries such as fisheries—caused by overfishing and the reduction or contamination of fish stocks.

Public health is the leading indicator of the urban environment. The incidence of waterborne diseases, pneumonia, chronic respiratory disease, lung cancer, and heart attack is directly related to the success of urban governance in providing the infrastructure and regulatory framework for successful environmental management. Other health issues, such as death and injuries from road accidents, are also directly related to the success of urban governance in creating a safe urban environment.

Environmental problems are closely linked to poverty. For individuals and households in most Asian cities, money buys location and land tenure, better-quality housing, access to reticulated water and bottled water, sewerage and drainage, solid waste collection, connection to the electricity supply and, for some, a backup generator. Even if local government cannot provide all these services, at a price they can be provided, albeit inefficiently, on a domestic scale. At the other extreme, absence of money results in poor-quality squatter housing on low-lying land or close to major roads and associated high levels of pollution, uncertain tenure and the risk of eviction, illegal and often dangerous connection to the electricity supply, unclean sometimes intermittent water supply from a community standpipe, stagnant pools of wastewater, access to a community latrine at best, and high risks of storm water flooding and other climatic damage. The health and other costs of environmental degradation overwhelmingly and disproportionately fall on the urban poor.

Urban Finance

Urban finance is critical to addressing the broad range of problems of urban growth and to achieving more sustainable development outcomes for Asian cities. There are two main and closely interrelated issues of urban finance: first is the enormous amount of money required to finance infrastructure and service provision; and second are the financial systems and arrangements required to mobilize these funds and ensure their effective use.

As noted in the Infrastructure section, the total requirement for infrastructure and maintenance in Asia may well be $250–300 billion per annum

or more than 6% of GDP. Urban governance has to capture an adequate share of economic activity to finance this investment. There is little evidence that present funding shortfalls are the result of demand factors, such as unwillingness in urban areas to pay for services, or of the failure of capital markets. Rather, the inability to mobilize adequate resources reflects structural weaknesses in the enabling environment for urban governance, and institutional weaknesses and capacity constraints in the local governments and special-purpose authorities responsible for urban governance.

Access to loan funds and capital markets by local government depends on the assets and financial viability of the local authority and the ability of potential lenders and investors to assess risk confidently. These issues have largely been avoided to date in Asian countries. Access to finance by local authorities has mainly come through loans directly from central governments and through various forms of central government-sponsored financial intermediaries, with inevitable real and implicit subsidies and administrative restrictions on borrowings. Such arrangements have sheltered local authorities, but their long-term impact has been to isolate these authorities from normal market disciplines and to allow authorities to operate in a financially semi-viable form. The end result has been the growing backlog in infrastructure and services in Asia.

Efforts to increase the role of the private sector in infrastructure and service provision are, at least in part, recognition of the failure of central and local governments over many years to address structural and viability problems of local government authorities. Poor local government financial capacities and capabilities will not be overcome quickly and the move in Asia for the decentralization of functions from central to local governments can only bring these problems more to the fore.

Urban financial management in Asia is generally weak and the responsibility for it varies between countries and cities. In countries with federated government structures, such as Malaysia and India, there has historically been greater decentralization and local control of urban financial matters. In unitary-governed nations, such as Indonesia, the Philippines, and Viet Nam, there has been more central control and management of local government finance, especially in funding urban development. Most Asian countries have, or are moving toward, more decentralized government, with provincial and local governments having greater responsibility for the financing, planning, delivery, and management of land development and urban services.

A major problem of urban finance in Asian countries is the weakness of the revenue base of local governments. Local government is usually heavily dependent on fiscal transfers from central government and has a poor record of exploiting its limited tax base and user charges. Reforms to broaden the

revenue base, to align local government responsibilities with the revenue base, and to introduce systems and processes to exploit the revenue base more effectively are urgently required.

Cost recovery and tariffs are related issues. In many cases, urban public utilities are performing poorly and services are heavily subsidized. The problem is not only the pricing structure but also the failure of systems for assessing usage and for billing and collections. Also, the poor standard of service can reduce willingness to pay. There is a strong reluctance on the part of local authorities to close or sell underperforming, loss-making public utilities for fear of creating unemployment and reducing already inadequate services. While issues of community affordability have to be addressed, loss-making public utilities erode the capital and financial base of cities, leading to the neglect or underfunding of other public services. Also, in many cases, poor accounting by local governments means that they have only a limited understanding of the financial performance of public utilities.

Asset management of local authorities is also poor, resulting in substantial underperformance of public assets. Most cities do not have or maintain a register of assets, such as public land. Many local governments have no idea of the holdings they own or their market value. Also in many Asian cities, the valuation of property does not indicate its market value. This is one factor contributing to the substantial undercollection of local government land taxes. In some urban areas in Asia, less than 5% of real property taxes collected are based on market value. Moreover, if public assets are not known or appropriately valued, they cannot be leveraged to provide access to loan funds and capital markets for financing infrastructure and service provision.

Most local governments in Asia do not use modern financial management practices, such as performance-based budgeting and accrual accounting methods. Consequently, cash flow and financial mismanagement problems are a common occurrence. Many projects and programs undergo delays because of poor cash flow management, increasing the overall costs. These problems are compounded by the lack of transparency and accountability in public sector financial management systems, which provide opportunities for corruption in local government.

Governance

The success of urban governance is central to the performance of cities in Asia. Urban governance affects the economic performance of cities through its impact on location competitiveness and the investment climate of cities. It also plays a central role in the sustainability and amenity of cities through

the provision, either directly or indirectly, of infrastructure and services and the management of the social, environmental, and spatial effects of urban development. Importantly, urban governance and, in particular, local government, are at the center of participatory mechanisms to allow the involvement of local communities and civil society in local decision making.

Several major problems confront the governance of cities in Asia.

- *The complexity of governance*: cities are usually governed by complex, often poorly coordinated arrangements comprising local governments, national and sometimes regional governments, and special-purpose authorities. This complexity encourages boundary disputes and the shifting of responsibilities. There is often no city government that considers the city as a whole.
- *The capacity of governments and agencies*: local government is usually the weakest link in urban governance; there are major discrepancies between the nominal functions of local governments and their revenue-raising systems and technical capacities. Local governments often possess only a weak capacity to design, finance, and implement policies and programs. There are also major capacity problems in special-purpose authorities, such as electricity supply and water supply utilities.
- *The systems and processes of governance*: these are often poorly developed, with problems of representation, coordination, transparency, accountability, and corruption.

These problems affect the effectiveness and efficiency of urban governance. Their impacts have been accentuated by the very rapid rate of growth in Asian cities. Since 1950, the urban population in Asia has grown nearly sevenfold—from 232 million to 1,562 million. Unless actions are taken quickly to simplify and clarify the arrangements for urban governance and to strengthen government capacities, these problems will be accentuated even further by the sheer scale of future urban growth. If the performance of urban governance does not improve, there will be growing backlogs in the provision of infrastructure and services, worsening environmental conditions, periodic urban crises as environmental thresholds are crossed, and the sustainability of many Asian cities will deteriorate. At the extreme, this has the potential to stifle economic development and cut living standards in some cities.

Rapid economic and population growth has inevitably resulted in strains on urban governance and on the systems and processes of urban administration and service provision. Governance by its nature involves politics, processes, and the mobilization of resources. These can be inflexible in rapidly

changing circumstances. One barrier to change in governance systems and arrangements at the local and city levels is that change often involves people and institutions at different levels of government. Change can be slow, particularly when the capacity of local organizations to develop and implement policy is starting from a low base, and national politicians and institutions do not give priority to local issues. City governance in Asia over the last 50 years has generally been swamped by urban growth. It has been too slow to develop and adjust. Local governments have been left with little alternative but to attempt to muddle through.

In general, urbanization and economic growth in Asia have increased the political and administrative pressures to decentralize government decision making and service delivery from central government to subnational, more local government. There has been an increased emphasis on regional development and on the decentralization of service provision over the last 2 decades and particularly since the Asian financial crisis. Subnational governments are increasingly being asked to take on greater responsibility for raising public money and for providing infrastructure and services. The performance of Asian countries is increasingly dependent on the capacity and performance of local governments.

Three pressures are at work in Asia, encouraging a renewed look at urban governance and particularly local government. First is the increased demand and growing backlog for services and infrastructure in rapidly growing cities, which threatens to stifle both urban productivity and national economic performance. These can often be prioritized and provided more effectively and efficiently at the local level. Second is the need for fiscal discipline in national governments, which has increased the political attractiveness of devolving responsibilities to lower levels of government and toward local resource mobilization. Third is the desire of local people, institutions, and community organizations to have a greater say in public investments and trade-offs in urban planning, which affect both the economic performance and amenity of their city.

Even with decentralization, the role of national governments in setting the enabling environment for urban governance and in facilitating coordination between the various levels of government and with special-purpose authorities will remain critical. National governments can also be expected to, on occasion, override other levels of government on matters considered of national importance or where local governments are considered to have failed.

There are always tensions in the political dynamics between national and subnational governments. This is as true in the countries of Asia as elsewhere in the world. There is often a reluctance on the part of national governments

to see cities with a strong economic base develop further as important political entities in their own right and in national politics. This can be a factor militating against the creation of citywide local governments. Decentralization of governance and local government boundaries are necessarily a political compromise.

Politics, history, issues of capacity and financial resources, and inertia have all played a role leading to the weak, fragmented governance arrangements of most cities in Asia. Financial arrangements are a particular issue, with the reluctance of national governments to cede taxation powers to local authorities commensurate with their service-delivery functions, restrictive borrowing arrangements for local authorities, and their reliance on both general and specific-purpose fiscal transfers from the national level. National governments have endeavored to, more or less, maintain overall control and align the impacts of local government expenditures and borrowings with national economic policy and priorities. From a central government perspective, this may be no bad thing but it has prevented the development of local government as an independent, financially viable institution. Central controls need to be balanced with some real local-level decision-making responsibilities and appropriate resources if the benefits of decentralization are to be achieved.

In all countries considered in this book, there are at least two levels of subnational government and in some, such as the PRC and the Philippines, four. In all these countries, there is increasing focus on decentralization, although this ranges from modest decentralization of some service provision in Cambodia and Viet Nam, to major institutional and administrative change in Indonesia and the Philippines.[8] Also, local government—its finances and functions and relationship to national government—remains a work in progress.

There is a considerable amount of information on urban development and local government in Asian countries, but much less attention appears to have been paid to analyzing the enabling environment of urban governance—the institutional, administrative, and financial architecture of urban governance—and its impact on city performance. This enabling environment is largely the product of national government and comprises the legislation, policies, and directives guiding urban governance and local government operations. The national government framework for urban governance and its associated incentives structure are key factors in the performance of local governments and of urban areas.

While the legal, financial, and administrative arrangements surrounding urban governance are important, outcomes on the ground in cities vary widely even within the same national structure. In each Asian country considered here, there are urban communities and local governments that are better than others in developing and implementing programs and mobilizing resources;

that understand better the complexities of intergovernment arrangements; and that know how, when, and whom to consult to achieve effective outcomes. Others lag behind, seemingly lacking direction and resources, sometimes beset by internal political divisions, and lacking the ability to plan, prioritize, and implement programs. Some of these differences are attributable to the wealth, history, and/or stage of development of the particular city or urban area. Others reflect leadership, dynamism, and the development of a proactive culture in some urban communities at local government, community, and nongovernment organization levels.

CONCLUSION

There is much doom and gloom written about the future sustainability of Asian cities associated with the need to accommodate an additional 1,100 million people over the next 25 years. There is a sense that the magnitude of the problem is too great and that inevitably some cities will experience crises and collapse. The same was said of London and Rome in their past.

While the problems are daunting, the authors of this book are optimistic. Some Asian cities will inevitably experience crises but they are changing. There is vibrancy and vitality in Asian cities, and some have taken major steps to improve the quality of their urban services and environments. Many promising initiatives that are improving the appalling conditions in some cities and putting them on a path to a more sustainable future are being undertaken at the local levels.

Decentralization policies of national governments in Asia are increasingly placing urbanization issues at the local level. Much still needs to be done by national governments in setting the enabling environment for local government to operate. Much also needs to be done to strengthen the capacity of local governments and utility agencies so they can fulfill their functions. The need for effective citywide governance and coordination between the various levels of government and between local governments and special-purpose authorities is another important issue.

Achieving more sustainable forms of urban development for Asian cities is a challenge not only for governments but also for communities and private sector organizations. Successful urban development requires the development of partnerships between all parties involved.

While there are many ways of improving the performance of local government through assistance with strategic planning, institutional strengthening, and management and staff training, one complementary approach is by disseminating information on good practices for sustainable urban develop-

ment. The following chapters of this book show how countries in Asia are developing and applying good practice to achieve more sustainable urban development outcomes.

Notes

[1] Source for population data: Population Division, Department of Economic and Social Affairs, United Nations Secretariat. 2005. *World Population Prospects: The 2002 Revision* and *World Urbanization Prospects: The 2003 Revision.* October. Available: http://esa.un.org/unup.

[2] Definitions of Asia vary depending on sources. In this book we have not attempted to reconcile data to a single definition but rather to note the source. The issues raised by urbanization in "Asia" (and "Developing Asia" and "Emerging Asia") are generally applicable to the 12 developing countries considered in this book and to very broad definitions of developing countries in the region. Asia in this population data is defined as East Asia: People's Republic of China (PRC); Hong Kong, China; Macau, China; Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea. South-central Asia: Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Kazakhstan, Kyrgyz Republic, Maldives, Nepal, Pakistan, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan. Southeast Asia: Brunei Darussalam, Cambodia, Democratic Republic of Timor-Leste, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam. Western Asia: Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Occupied Palestinian Territory, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen.

[3] Less-developed regions are defined as all regions of Africa, Asia (excluding Japan), Latin America, and the Caribbean plus Melanesia, Micronesia, and Polynesia.

[4] For details and projections, see World Bank. 2006. *Global Economic Prospects - Economic Implications of Remittances and Migration.* Washington, DC.

[5] The International Monetary Fund defines Emerging Asia as the PRC; India; Hong Kong, China; Republic of Korea; Singapore; Taipei,China; Indonesia; Malaysia; Philippines; and Thailand.

[6] These energy data were derived from information in Energy Information Administration, Office of Integrated Analysis and Forecasting, US Department of Energy. International Energy Outlook 2005, July 2005. Tables A1, A2, A9, and A10.

[7] This section on land draws heavily on Angel, S, S.C. Sheppard, and D.L. Civco. 2005. *The Dynamics of Global Urban Expansion.* Washington, DC: World Bank.

[8] A full analysis of the issues involved in the decentralization of government is contained in World Bank. 2005. *East Asia Decentralizes—Making Local Government Work.* Washington, DC. While the World Bank study only considers Cambodia, PRC, Indonesia, Philippines, Thailand, and Viet Nam, the issues raised and trends identified are relevant to the other six countries considered in this book.