

## VI THE POLICY IMPLICATIONS OF THE CURRENT FINDINGS

### 1. Anticipating the scale of change

The discussion in the preceding chapters has directed attention to the magnitude of change in urban land cover that can be expected in the coming decades, particularly in cities in developing countries where economic forces and the natural process of national development are encouraging rapid urbanization. The current pace of urban growth would require the governments of developing countries to provide the necessary public goods for building, on average, a new city of 1 million people every week for the next 40 years. This may be a striking image, but it is ultimately unhelpful in terms of guiding future planning and policy-making in the context of specific cities and countries.

What is clear from the preceding analysis is that urban growth and expansion is ubiquitous. Cities that experience population and economic growth inevitably experience urban expansion too. This in itself is an important finding, because it is quite common to hear of urban planners and decision makers speaking of their cities as exceptions to the rule, asserting that other cities will grow and expand and their city will not, simply because it is already bursting at the seams, and because they think that further growth is objectionable. Urban population growth is largely outside the purview of policy making, and economic development is unlikely to be resisted by policy makers. This makes urban expansion all but inevitable.

The key issue facing public sector decision makers—at the local, national and international levels—is not whether or not urban expansion will take place, but rather what is likely to be the scale of urban expansion and what needs to be done now to adequately prepare for it.

The models introduced and discussed in the preceding chapter can be utilized to provide some guidance as to the scale of change likely to result if trends of the past decade continue. We begin by illustrating how this can work, and then proceed to discuss policy options and implications of our analysis.

Consider, as example, two cities—Jaipur, India and Bandung, Indonesia. Jaipur had a population of approximately 2.8 million at the end of 2000, and Bandung had a population of approximately 3.6 million. Our analysis indicates that Jaipur covered about 141 square kilometers, and Bandung 182. If present trends in population growth, income growth, and the change in the value of agricultural output per hectare continue for the next 25 years, what levels of urban growth will these two cities have to prepare for?

Table VI-1 presents an analysis of urban expansion in Jaipur and Bandung using the logarithmic and linear models of urban extent presented in the preceding chapter. Calculating the annual rates of change in population that have prevailed over the past decade, Jaipur would be expected to grow to a population of nearly 5.2 million persons, and Bandung would grow to 6.2 million. If present trends continue, national GDP per capita (adjusted for inflation) would increase to \$5,413 in India and \$6,059 in Indonesia.

The value-added per hectare in agriculture would rise to \$1,156 in India and \$2,030 in Indonesia.

**Table VI-1: Expected Urban Expansion in 25 Years in Jaipur and Bandung**

	Logarithmic Model		Linear Model		
	Jaipur	Bandung	Jaipur	Bandung	
Change in Population	86.64%	70.81%	Change in Population	2,407,900	2,569,148
Change in Income	140.33%	109.83%	Change in Income	\$3,160.75	\$3,171.55
Change in Agric. Rent	81.82%	60.68%	Change in Agric. Rent	\$520.19	\$766.68
T <sub>2</sub> Area (km <sup>2</sup> )	140.84	181.95			
T <sub>2</sub> Population	2,779,119	3,628,117			
T <sub>2</sub> +25 Population	5,187,019	6,197,265			
<b>Pct Increase in Area</b>			<b>Increase in Area</b>		
Due to Population Increase	0.57	0.47	Due to Population increase	110.76	118.18
Due to Income Increase	0.70	0.54	Due to Income increase	24.20	24.28
Due to Agric. Rent Increase	-0.21	-0.16	Due to Agric. Rent Increase	-5.77	-8.50
Total Pct Increase in Area	1.06	0.86			
Estimated Total New Area	149	156	Estimated Total New Area	129	134

Assuming that other factors remain unchanged, we can combine these expected changes with our model estimates to determine the expected changes in the total built-up area in each city. As shown in Table V-1, the logarithmic model predicts that in 25 years Jaipur will more than double in size, adding 149 square kilometers of urban built-up area. Bandung will nearly double in size, adding 156 square kilometers of built-up area. The linear model predicts similar orders of magnitude of change—although the totals are somewhat lower—with Jaipur increasing by 129 square kilometers and Bandung increasing by 134.

Both models suggest that population growth, income growth, and change in the productivity of agricultural land are important factors influencing the change in urban land cover. The linear model seems to suggest that the change in population is by far the most important factor, with the impact from extrapolation of current trends in population growth causing about 4 times the urban expansion that results from extrapolation of income trends. The logarithmic model, which fits the data somewhat better than the linear model, indicates that income change might be a much more significant factor. This suggests that the majority of new urbanization in cities is due to income growth. Even if population growth in Jaipur and Bandung were kept to zero for the next 25 years, the logarithmic model suggests that trends in income and agricultural output would add 68 square kilometers to the area of Jaipur and 70 square kilometers to Bandung.

These estimates refer only to the increase in the *built-up area* of these two cities. They make no reference to how much area needs to be urbanized, given the *Openness Indices* for these cities. We do not have an estimate of the Openness Index for Jaipur, but the Openness Index for Bandung was found to be 37.2 (see Chapter IV, Section 11). This

suggests that the *urbanized area* of Bandung is at least one-third larger than its built-up area. If the degree of openness were to stay the same, then the urban area of the city would need to be expanded by up to 200km<sup>2</sup>.

## 2. The anticipated impact of *Compact City* policies

Proponents of *compact cities* will recommend policies that aim to restrict urban expansion—in one way or another—seeking to reduce the amount of land for absorbing urban population and income growth. They will suggest increasing existing densities, encouraging infill, zoning and land subdivision regulations, placing urban growth limits, or land conservation. According to their adherents, which are many, compact city policies foster

[l]ess car dependency, low emissions, reduced energy consumption, better public transport services, increased overall accessibility, the re-use of infrastructure and previously developed land, the rejuvenation of existing urban areas and urban vitality, a high quality of life, the preservation of green space and a milieu for enhanced business and trading activities.<sup>105</sup>

The merits of restricting urban expansion and encouraging infill and intensification of existing urban areas—even in the cities in industrialized countries—are by no means clear, nor is it self-evident that these are desired by the majority of urban residents. A comprehensive study of urban intensification in the United Kingdom that included a survey of 445 local planning authorities as well as a questionnaire administered to some 4,500 residents in twelve cities, has found that 52 percent of local authorities encouraged urban intensification, 7 percent discouraged it, and 41 percent were neutral. Resident responses to intensification were, on the whole, negative, as can be readily seen from the table VI-1.

The case for densification and intensification in the cities of developing countries—where densities are, on average, three times higher than densities in industrialized country cities—is even less clear. Burgess, in framing the debate on compact city policies for developing countries offers the following definition of the compact city approach:

[t]o increase built area and residential population densities; to intensify urban economic, social, and cultural activities and to manipulate urban size, form and structure and settlement systems in pursuit of the environmental, social and global sustainability benefits derived from the concentration of urban functions.<sup>106</sup>

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<sup>105</sup> Thomas, L. and W. Cousins, 1996, "The Compact City: A Successful, Desirable and Achievable Urban Form?" in M. Jenks, E. Burton and K. Williams, eds., *The Compact city: A Sustainable Form?* London: E&FN Spon, 56.

<sup>106</sup> Burgess, Rod, 2000, "The Compact city Debate: A Global Perspective", in *Compact cities: Sustainable Urban forms for Developing Countries*, Jenks, Mike and Rod Burgess, eds., London and New York: Spon Press, 9.

**Table VI-1: Issues improved or worsened by activity and built form intensification (percent respondents)**

Issue	Better	Worse
Parking	4	66
Traffic	1	85
Air pollution	1	70
Noise	1	70
Road safety	3	71
Public transport	25	17
Education facilities	7	10
Health facilities	11	13
Recreation facilities	14	18
Shops	25	18
Amount of open space	2	47
Quality of open space	6	41
Job opportunities	11	20
Privacy	3	43
Amount of greenery	5	44
Quality of greenery	6	39
Crime	2	54
Local character	10	45
Neighborliness	8	24

Source: Jenks, M., K. Williams and E. Burton, "Urban Consolidation and the Benefits of Intensification", in M. Jenks, E. Burton and K. Williams, eds., *The Compact city: A Sustainable Form?* London: E&FN Spon, table 2.2, 25.

Having defined the compact city approach, Burgess proceeds to present the case of those who question its merits in developing country cities:

What is the sense, it is frequently asked, of further densification given that densities are already high and associated with a range of problems including infrastructure overload, overcrowding, congestion, air pollution, severe health hazards, lack of public and green space and environmental degradation?<sup>107</sup> The sustainability gains from further densification will be limited under conditions where densities are already high. Under these circumstances the merits of urban densification postulated for developed country cities seem far less convincing in the context of developing countries.<sup>108</sup>

As mentioned in the previous chapter, there may be little that policy-makers can do—or should do—to influence current levels of compactness in the cities of developing

<sup>107</sup> Paraphrasing Hardoy, J., S. Cairncross and D. Satterthwaite, eds., 1990, *The Poor Die Young: Housing and Health in Third World Cities*, London: Earthscan.

<sup>108</sup> Burgess, 2000, 15.

countries. Even in the best of circumstances, compact city policies may have a marginal effect on the overall level of urban land consumption.

Whether one prefers to believe the predictions of models presented in table VI-1, the more expansive predictions if current levels of openness are retained, or the more conservative predictions if compact city policies are to have *some* effect, the message is quite clear—developing country cities should be making serious plans for urban expansion, including planning for where this expansion would be most easily accommodated, how infrastructure to accommodate and serve the projected expansion is to be provided and paid for, and how this can be done with minimal environmental impact. To be done at scale, such plans should focus on preparing adequate areas for urban expansion. On average, this may entail the preparation of 100–200m<sup>2</sup> of new urbanized land for every new resident in the cities in developing countries for many years to come.

### 3. Urban expansion policies:

There are three groups of policy areas that have a bearing on the shape of urban expansion:

- d. Policies that affect or seek to affect rural–urban (or international) migration, both directly and indirectly;
- e. Policies that affect or seek to affect the distribution of urban populations among cities; and
- f. Policies that affect or seek to affect the process of urban development in individual cities and metropolitan areas.

The motivations for pursuing policies of the first type are many—from concerns that cities are already too big and bursting at their seams, to the romantic longings for a wholesome village lifestyle, and to the need to focus development on rural areas, where the majority of poor people live and work. Policy prescriptions have ranged from increasing agricultural productivity and improving rural education to restricting the movement to cities by requiring residence permits. All in all, even though many governments have attempted to control rural–urban migration flows, most, if not all, of these have ended in utter failure—not only in democratic countries that guarantee freedom of movement, but also in non-democratic countries such as the former USSR. In China, one of the very few places where people are still required to have residence permits (*Hukou*) to live in cities, a floating population of some 80–120 million resided in cities illegally in 2000.<sup>109</sup>

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<sup>109</sup> BBC News, 2000, “China Begins Massive Census”, 31 October, online at [news.bbc.co.uk/1/hi/world/asia-pacific/1000357.stm](http://news.bbc.co.uk/1/hi/world/asia-pacific/1000357.stm).

Davis and Henderson, for example, conclude that alternative policy regimes have little impact on the rate of urbanization.<sup>110</sup> They do find, however, that public sector investment policies and political structures have significant impact on the second set of policies defined above, that is, on the system of cities that develops, and on the extent to which the urban population is concentrated in a smaller or larger number of urban places. They also find that urban concentration or “primacy” can have significant implications for the rate of economic growth.<sup>111</sup> Still, effective population distribution policies of both types defined above are few and far between, and while most governments have attempted to employ them in one form or another in the past, very few of them can claim success. Again, the former USSR may be a case in point: the repeated attempts to limit the size of Moscow to two million and to redirect the urban population to development regions has failed miserably as Moscow has grown to four times its planned size.

For the most part, the growth of population of a typical city is predicated on its own natural birth and death rates and on its attractiveness to those who see opportunity and promise there. Successful cities, where economic growth is robust, employment is plentiful, urban services are adequate, and the quality of life is high attract people. These cities naturally grow faster than other cities in the country where economic opportunities are few and the promise of a better life is less than convincing. It is hard to imagine, therefore, that the residents or the policy-makers of a successful city will agree to curtail its economic growth or to reduce either its level of urban services or its quality of life so as to prevent people or firms from moving in.

The central focus of this report is therefore on the third set of policies mentioned above—those that aim at managing the urban development process in individual cities and metropolitan areas in one form or another. These policies are generally of two main types: *regulatory* and *positivist* (or *activist*). The first type assumes that most development decisions and most investments in urban expansion are undertaken by households and private firms, and seeks to guide this process through legislation and enforcement. The second type focuses on the development decisions and investments of the public sector, and seeks to guide the urban development process by public land acquisition and by undertaking key strategic investments in public infrastructure and in public facilities, and—in some cases, rarely seen today—public housing. Most cities manage their development with different combinations of regulatory and positivist policies.

Further phases of the present study will explore the effects of various policy regimes on different measures of urban expansion. We shall seek to determine whether, other

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<sup>110</sup> Davis, J.C. and Henderson, J.V., 2003, “Evidence on the Political Economy of the Urbanization Process”, *Journal of Urban Economics* 53: 98-125.

<sup>111</sup> Reported in Henderson, J.V., 2003, “The Urbanization Process and Economic Growth: the So-What Question”, *Journal of Economic Growth*, 8, 47-71. Henderson finds that one standard deviation departure from the optimal degree of primacy is associated with reductions in annual growth rates of 1.41 percentage points.

things being equal, urban expansion in cities pursuing diverse policy regimes take different shapes and forms. This cannot be investigated in a systematic fashion without obtaining information on the policy regime guiding urban development in each individual city in our sample. Collecting such information is one of the key objectives of the second stage of this study, supported by a grant from the US National Science foundation (NSF). In this second phase of the study, now already under way, local consultants are collecting data in municipal offices and in real estate agencies on the policy regimes guiding the urban development process. Once the data is obtained and analyzed, key dimensions of the policy regime governing urban expansion will be quantified and entered into the econometric models seeking to explain variations in different measures of urban expansion in our global sample of 120 cities.

#### **4. Regulating urban expansion**

The regulatory tools available for managing the urban development process in cities and metropolitan areas are generally of three main types: urban growth controls; zoning and land subdivision regulations; and building codes and standards. Positivist or activist tools are also of three main types: public land acquisition and allocation; investments in public infrastructure and in facilities; and public-private partnerships in urban development projects.

Urban growth controls in industrialized countries now include legislation to protect wetlands and endangered species near urban areas or, more broadly, to protect farmland; greenbelt legislation or urban growth limits to prevent the conversion of rural to urban land at the periphery of the city; land conservancies to keep land from development; quotas for building permits; delays in releasing public lands for urban development; moratoria on further infrastructure investments; increasing the cost of infrastructure for private developers; prohibiting development that will further congest the existing road network or create more pollution; restricting the ability of municipalities to raise the necessary capital to extend infrastructure networks; requiring lengthy and costly studies and permit procedures; and increasing the risk to residential developers of litigation by environmental groups.

Zoning regulations in industrialized countries now include legislation and enforcement that restrict the use of every parcel of land. These regulations clearly identify lands on which no development is allowed for various reasons. They also prescribe the type of urban use that may be allowed, often restricting lands to a single type of use—residential, commercial, or industrial—seeking to prevent multiple uses or the use of residences for work purposes. Density limitations, allowable floor-area ratios (FARs) and building height restrictions proliferate.<sup>112</sup> Zoning and land subdivision regulations clearly have a direct bearing on the density of urban expansion. In US

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<sup>112</sup> For the impact of building height restrictions on urban expansion in Bangalore, India see Bertaud, Alain and Jan K. Brueckner, 2004, "Analyzing Building Height Restrictions: Predicted Impacts, Welfare costs, and a Case Study of Bangalore, India", Policy Research Working Paper 3290, The World Bank, April, Washington: The World Bank.

suburban areas, for example, they typically include “exclusive single-family use; one structure per lot; minimum lot size; maximum lot coverage; minimum floor area of the house; off-street parking; front, side, and rear-yard setbacks; maximum height restrictions... and requirements for the provision of infrastructure at the developer’s expense.”<sup>113</sup>

Building codes and standards have been imposed since antiquity with the primary aim of protecting health and safety and, in many cases, with the secondary aim of ensuring “decent minimum housing.” They seek to ensure that buildings do not collapse, that fire hazards and the spread of fire are minimized, that rooms have enough light and air, and that clean water and sewerage are in adequate supply. In 19th century Great Britain, according to Burnett,

The development of a sanitary house, with adequate standards of construction, water supply and sewerage, was the product of the Public Health acts, and, more especially of the building by-laws from 1875 onwards, which brought about a major, and largely unrecognized, advance in working-class housing standards.<sup>114</sup>

While such standards may have led to improvement in the living conditions of some, they have also been used in many cities the world over as the rationale for demolishing sub-standard housing in the name of decency, cleanliness, or public health and safety. Le Corbusier, for example, in his *Modernist Athens Charter*, proclaimed in 1943:

An elementary knowledge of the principal notions of health and sanitation is sufficient to detect a slum building and to discriminate a clearly unsanitary city block. These blocks must be demolished, and this should be an opportunity to replace them with parks.<sup>115</sup>

The reader can clearly see that a large number, if not most, of the regulatory tools available for managing urban development in industrialized countries are not necessarily appropriate in many developing countries where the rule of law leaves a lot to be desired, where property rights are not strictly enforced, where land registration and cadastres are incomplete, where officially-sanctioned city plans are rarely taken seriously, where much land subdivision and construction proceeds without permits, where enforcement is intermittent and often corrupt, and where a large part of the citizenry cannot afford minimum standard shelter. Surely, almost all countries have adopted zoning and land subdivision regulations, as well as building codes and standards, but these have often been copied wholesale from industrialized countries

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<sup>113</sup> Fischel, William A., 1995, *Regulatory Takings: Law, Economics, and Politics*, Cambridge, Mass.: Harvard University Press, 221.

<sup>114</sup> Burnett, John, 1986, *A Social History of Housing 1815–1985*, 2nd Edition, London: Methuen, 335.

<sup>115</sup> Le Corbusier, 1943, *The Athens Charter*, Paris: La Librarie Pion. Reprinted, New York: Grossman, 1973, 70.

without regard to their enforceability, their affordability, or their unforeseen consequences.

One of the objectives of later phases of the present study is to investigate the effects of regulatory regimes on different aspects of urban expansion, with particular emphasis on the differences in enforcement regimes between cities. This aspect of the study will be investigated in the second phase of the study, now under way, when data on the enforcement regimes will be collected in our global sample of cities. A related objective is to identify those elements of the regulatory regime governing urban expansion in developing-country cities that appear to be more practical. This aspect will be investigated in more detail in a third phase of the study, now beginning, that will focus on examining the available tools for the management of urban expansion in three cities—one in China, one in India, and one in Sub-Saharan Africa—funded by the Japanese Trust Fund of the World Bank.

## **5. The active management of urban expansion in developing countries**

As noted earlier, positivist or activist tools for the management of urban expansion are of three main types: public land acquisition and allocation; investments in public infrastructure and in public facilities; and public-private partnerships in urban development projects.

Public action to bring land into the public domain—be it through confiscation and nationalization or through acquisition by eminent domain with just compensation—can either escalate or slow down urban expansion. Some governments may acquire land (or the development rights to land) to keep it away from development, as in the case of the State of New Jersey in the US mentioned earlier. Other governments—those of the Republic of Korea and China being prime examples—forcefully acquire large swaths of both built-up and raw land, demolish existing structures, subdivide the areas into new parcels, provide them with new infrastructure, and sell them off to private developers, thus escalating the urban development process.

In many countries, governments acquire much more limited amounts of land by eminent domain for road right-of-way, as well as for other infrastructure projects and public facilities. Acquiring rights-of-way for roads in advance of development is an effective way of ensuring that roads—especially secondary roads serving urban communities—are not under-supplied.<sup>116</sup> There are many cases where the rights-of-way for roads were acquired in advance of development, New York and Philadelphia being well-known historical examples. Toronto, to cite another example, has developed a one-kilometer grid of secondary roads over the years that now carries public transport into

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<sup>116</sup> Primary roads connecting one city to another are typically financed by central governments and can often be at least partially financed from tolls. Tertiary roads within subdivisions are typically financed from the sale of plots. Secondary roads that typically carry public transport and other trunk infrastructure are generally financed by municipal funds and are therefore likely to be under-supplied.

many suburban neighborhoods. There is no doubt that advance purchase of rights-of-way is an effective preparation for absorbing new development.

The acquisition of road right-of-way is especially important for urban secondary roads. While tertiary roads within subdivisions can be built by developers and financed from the sale of homes, and while primary inter-city roads can be built by national transportation agencies and often financed from tolls, secondary roads are true public goods. They are likely to be in short supply if there are inadequate financial resources for building them. There may be reluctance to build such roads in advance of urban development, since highway engineers are typically reluctant to invest in roads that may not carry traffic at projected capacities for a long time to come. It may thus be advisable to acquire the road right-of-way for a wide 1-km grid that could open up the required amounts of new lands for future urban development, but to leave the paving, signaling and lighting of such roads until sufficient travel demand requires them. Advance acquisition of road right-of-way may be the most economical investment in urban transport, since it can occur when land prices are still low.

There is also no doubt that public investments in infrastructure enable and guide urban development. These range from dredging canals to dry the swamps that have made possible the development of St. Petersburg in Russia, to paving roads that create access to new development areas, to storing water in reservoirs and distributing water to previously arid zones unable to sustain human settlements, to building retaining walls and drainage canals that make possible construction on steep slopes, or to creating sewerage networks that treat wastewater or carry it out of the city.

Inter-city roads that are constructed with a view to connecting one city to another typically end up enabling development along their routes. So do inter-city or suburban railroads that attract development around stations. In addition, the public construction of a large number of public facilities—university campuses, government office campuses, parks and playgrounds, ports and airports, reservoirs and dams, garbage dumps, power stations and power lines—both attract and repel development.

In recent years, public activism in the land development process has joined hands with private interests in a variety of public-private partnerships. In some cases, public authorities are responsible for confiscating lands through eminent domain and other laws, with the aim of transferring them to private developers. A recent ruling of the US Supreme Court, for example, legitimizes the use of the power of eminent domain to acquire land for practically any public purpose—say increasing the municipal tax base or generating more jobs—rather than restricting it to land needed for public use. This allows for the close collaboration between public and private interests in urban development, possibly leading to an intensification of land use through recycling existing low-density uses into more intensive ones.<sup>117</sup>

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<sup>117</sup> See, for example, Lane, Charles, 2005, "Justices Affirm Property Seizures: 5-4 Ruling Backs Forced Sales for Private Development", *The Washington Post*, June 24.

Another form of public-private partnership in land development is known as Land Readjustment, and has been practiced in Japan, Australia, Germany and Norway. Land Readjustment involves collaboration between municipal authorities and landowners to develop an area on the urban fringe now in non-urban use. Landowners agree to a plan that assigns them smaller plots, leaving adequate land for urban infrastructure, as well as some land that can be sold at market value to pay for the construction of infrastructure and public facilities. Landowners agree to these schemes because the smaller plots they are left with, now in a fully serviced urban neighborhood can fetch much higher prices than the larger plots they previously owned.

One of the objectives of later phases of the present study is to investigate the availability, use and effectiveness of various activist public tools for preparing for and managing urban expansion. This aspect will be investigated in more detail in the third phase of the study mentioned earlier. This third phase, now beginning, will focus on examining the available regulatory and activist tools for the management of urban expansion in three cities—one in China, one in India, and one in Sub-Saharan Africa—funded by the Japanese Trust Fund of the World Bank.

## **6. The costs of failure:**

Few governments in the developing countries are actively preparing for urban population growth, even though it is now generally accepted that slowing it down or reversing the tide of urbanization—through rural development or population dispersion policies—is unrealistic and unworkable. In many countries, the planning horizons of politicians are too short to engage in longer-term planning and preparation for orderly urban expansion. To make matters worse, most local and national governments still maintain an anti-urban-growth attitude that results in a refusal to plan or prepare for orderly urban expansion, for fear of attracting more people to cities, even though there is no credible evidence that shortages of, say, housing, roads, open spaces, drinking water, or public facilities have any effect on rural-urban migration. International organizations—such as the World Bank, the regional banks and the United Nations—have generally refrained from engaging in critical dialogues on this issue with their member countries and from designing and implementing effective investment programs to meet this challenge.

As a result, the large majority of urban authorities in developing countries do not engage in realistic minimal preparations for growth: securing the necessary public lands and public rights-of-way necessary to serve future urban growth, protecting sensitive lands from building, or investing in the minimal infrastructure—transport grids, water supply, or sewerage and drainage networks—necessary to accommodate growth. Instead, they sometimes focus on ambitious utopian master-plans that are never meant to guide development on the ground, take many years to complete, and are usually shelved shortly after their publication. At other times, they simply refuse even minimal planning and investment, hoping against hope that their overcrowded cities will stop

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growing. Similarly, there are very few serious attempts to design and implement regulatory frameworks to guide urban expansion that are appropriate and affordable—as well as enforceable—in developing-country cities. As a consequence, urban expansion has taken place on sensitive lands that should be left undisturbed or on watersheds needed for supplying water to critical reservoirs, and newly built-up areas now lack adequate roads, water, sufficient land for public facilities, and even rudimentary open spaces.

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.<sup>118</sup> 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.

Needless to say, it is more expensive to provide trunk urban infrastructure in built-up areas—especially in areas developed by the informal sector—than to provide such services, or at least to protect the right-of-way needed for such services—before building takes place. While there are many reasons for neglecting to prepare for the inevitable future growth of cities, the absence of even minimal preparation for urban expansion—on both the activist and the regulatory fronts—is, no doubt, an inefficient, inequitable and unsustainable practice, imposing great economic and environmental costs on societies that can ill afford them. But the fact that such practices are now ingrained does not mean that they cannot be changed or moderated. The mistakes of the past stare us all in the face. They need not be repeated. Humanity has indeed been given a second chance: we now need to build new urban areas yet again that are at least equivalent in size to the cities that we have already built, we need to do it better, and we need to do it in a very short time. This report aims to increase our awareness of this challenge, to improve our understanding of its complexity, and to provide us with some of the tools necessary to meet it in an efficient, equitable and sustainable manner in the years to come.

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<sup>118</sup> See Angel, Shlomo, David Dowall et al, 1987, “The Land and Housing Markets of Bangkok: Strategies for Public Sector Participation”, The Bangkok Land Management Study, Bangkok: Planning and Development Collaborative International.