

The transition to a predominantly urban world and its underpinnings

David Satterthwaite

This is the 2007 version of an overview of urban change and a discussion of its main causes that IIED's Human Settlements Group has been publishing since 1986. The first was Hardoy, Jorge E and David Satterthwaite (1986), "Urban change in the Third World; are recent trends a useful pointer to the urban future?", *Habitat International*, Vol. 10, No. 3, pages 33–52. An updated version of this was published in chapter 8 of these authors' 1989 book, *Squatter Citizen* (Earthscan, London). Further updates were published in 1996, 2003 and 2005 – and this paper replaces the working paper entitled *The Scale of Urban Change Worldwide 1950–2000 and its Underpinnings*, published in 2005.

Part of the reason for this updated version is the new global dataset produced by the United Nations Population Division on urban populations and on the populations of the largest cities. Unless otherwise stated, the statistics for global, regional, national and city populations in this paper are drawn from United Nations (2006), *World Urbanization Prospects: the 2005 Revision*, United Nations Population Division, Department of Economic and Social Affairs, CD-ROM Edition – Data in digital form (POP/DB/WUP/Rev.2005), United Nations, New York.

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AUTHOR'S NOTE

This paper owes a great debt to Jorge E Hardoy. It developed from work we did together in the 1980s and early 1990s – and its interest in setting recent urban trends in a historic perspective and in seeking more detailed understandings of the economic, political, social and demographic underpinnings of urban change within each nation come from him. It also owes a great debt to friends and colleagues in different nations and institutions in Africa, Asia and Latin America, from whom I have learnt of the diversity and complexity of urban change in different nations. This includes work with Arif Hasan – and his analysis of urban change in Pakistan on which this paper draws is a good example of the kind of detailed national analysis that is needed in all nations. This paper is also written to expose various myths about urban change and to highlight the limitations and gaps in the statistics about urban change. It is also intended as a caution against international analyses of urban change that take no note of these limitations and that draw little or not at all from local analyses. One reviewer of an earlier draft of this paper commented that it had too much detail – for instance on differences in urban definitions. But it is this kind of detail that provides the basis for questioning the validity of many international analyses of urban change. The lack of attention to developing a stronger understanding of the local underpinnings of urban change is likely to have contributed to many ineffective or inappropriate conclusions and recommendations for policies by governments and international agencies.

But there is also a worry that this paper has sought too hard to find valid comparisons between nations or cities – which will also be found wanting. In addition, perhaps this paper pays too little attention to the large and growing number of very detailed micro-studies – for instance of migration patterns to specific cities or city districts or of living conditions in particular settlements. This paper was written to encourage more linkages between these and broader discussions of urban change, but without the author having the time to fully cover all available literature.

Of course, the paper also owes a great debt to the United Nations Population Division, that produces the statistics on which we all draw and whose cautions about the inappropriate use of the data and careful analyses are so often ignored. And special thanks to Nina Behrman for her careful editing.

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CONTENTS

Summary

1. Background – an urbanizing world	1
Introduction	1
The regional distribution of the world’s urban population.....	4
2. The world’s largest and fastest-growing cities.....	9
The world’s largest cities.....	9
New and old large cities	11
The difficulties in comparing city populations and their growth rates.....	12
The change in scale for large cities	16
The world’s most rapidly growing large cities	20
3. What drives urban change?.....	26
Introduction	26
The economic drivers of urbanization.....	28
Public services.....	32
Associations between economic change and urbanization levels.....	33
Urban change shaped by local factors	35
Cities and the global economy	37
Urban myths and data limitations.....	41
Urbanization and political change	47
Urban bias, over-urbanization and premature urbanization	51
4. The potential costs of rapid urban expansion.....	56
5. City governments that buck these tendencies	61
6. How urban is the future?	65
7. Conclusions	70
ANNEXE: City tables	73
Bibliography.....	81
Recent publications from IIED’s Human Settlements Group.....	87

FIGURES, TABLES AND BOXES

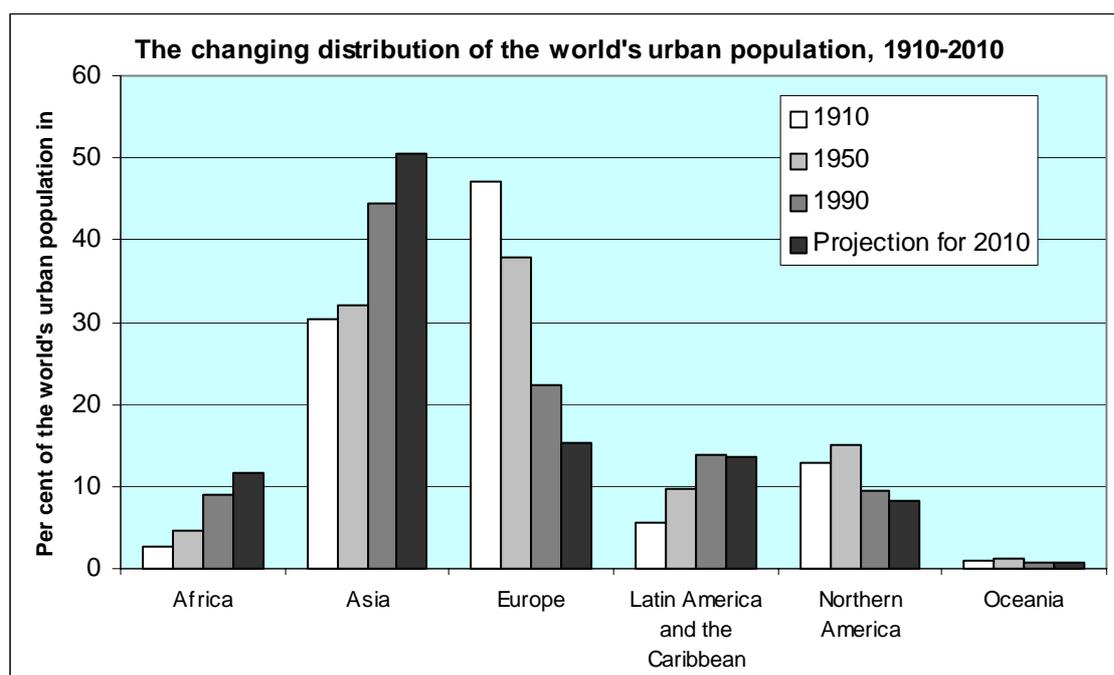
Figure 1: Growth in the world’s rural and urban population, 1950–2000 – and projected up to 2015	2
Figure 2: United Nations projections for growth in the world’s population, 2005–2025	4
Figure 3: Average size of the world’s largest 100 cities, 1800, 1850, 1900, 1950 and 2000.....	11
Figure 4: Population growth for Latin America’s largest cities in 2000 over two centuries.....	16
Figure 5: Population growth for North America’s largest cities in 2000 over two centuries.....	17
Figure 6: Population growth for Asia’s largest cities in 2000 over two centuries	17
Figure 7: Population growth for Africa’s largest cities in 2000 over two centuries.....	18
Figure 8: Population growth for Europe’s largest cities in 2000 over two centuries	18
Figure 9: Population growth for the USA’s largest cities in 2000 over two centuries.....	19
Figure 10: Population growth for Brazil’s largest cities in 2000 over two centuries	19
Figure 11: Population growth for India’s largest cities in 2000 over two centuries.....	20
Figure 12: Population growth for China’s largest cities in 2000 over two centuries	20
Figure 13: Changes in the proportion of GDP from industry and services, of the labour force working in industry and services and of the population in urban areas, 1950–2005	29

Figure 14: The association between nations' level of urbanization and their average per capita income, 2000/2001	34
Figure 15: The distribution of the world's 380 "million-cities" among the world's largest economies in 2000	39
Figure 16: Two different indicators of the same "urban growth", Tanzania, 1950–2000.....	45
Table 1: The distribution of the world's urban population by region, 1950–2010.....	6
Table 2: The distribution of the world's largest cities by region over time	10
Table 3: Examples of how the populations of urban areas change with different boundaries	13
Table 4: The world's 15 fastest-growing large cities, 1950–2000, according to two different criteria	21
Table 5: The geographic distribution of the largest and fastest-growing large cities, 1900–2000.....	24
Table 6: Contrasts in urban indicators between different regions in Pakistan	27
Table 7: The distribution of the world's largest cities among the world's largest economies and between nations classified by their per capita incomes in 2000	38
Table 8: Tanzania – selected urban statistics	45
Table 9: Comparisons of cities' population growth rates over 50 and 100 year periods	46
Table 10: Estimated urban dwellers lacking adequate provision for water and sanitation.....	57
Table 11: How projected city populations for 2000 changed between 1975 and the present	68
Table 12: The world's 100 largest cities, 2000	74
Table 13: The world's 100 fastest-growing large cities, 1950–2000	76
Table 14: The world's 100 slowest-growing large cities, 1950–2000.....	78
Box 1: The declining time needed for one billion additional urban dwellers	1
Box 2: Potential confusions between urbanization and urban growth	2
Box 3: Urban comparisons that can mislead and confuse	7
Box 4: Common myths about urban development	42
Box 5: Potential economies of scale and proximity for cities	61

SUMMARY

At some point during 2008, according to the latest UN statistics, more than half of the world's population will live in urban areas. There are other profound changes underway – for instance, the rapidly growing proportion of the world's urban population and its largest cities located in Africa and Asia, as shown in the figures below. Asia now has half the world's urban population and Africa's urban population is larger than that of Northern America. Europe's dominance has decreased dramatically. In 1910, the nations that now constitute Europe had more than half the world's 100 largest cities; by 2000, they had only ten. Europe has none of the world's 100 fastest-growing large cities (in terms of population growth rates between 1950 and 2000) but has most of the world's slowest-growing (and declining cities). Most of Europe's great centres of industry are no longer among the world's largest cities.

Asia and Africa have three-quarters of the world's 100 fastest-growing large cities (in terms of population growth rates between 1950 and 2000); China alone has 15 of them, India has eight. Latin America and the Caribbean now have a declining proportion of the world's urban population – but a still growing proportion of its largest cities and many of its fastest growing large cities (especially Brazil and Mexico). But there is an economic logic to the location of the world's largest cities as most are concentrated in the largest and most successful economies.



The world's urban population multiplied ten-fold during the 20th century and most of this growth was in low- and middle-income nations. And it is urban areas in these nations that will accommodate most of the world's growth in population between now and 2020. How these urban centres grow and develop has enormous implications for development success (including whether or not poverty is reduced); also for whether greenhouse gas emissions are reduced and disasters linked to climate change are avoided.

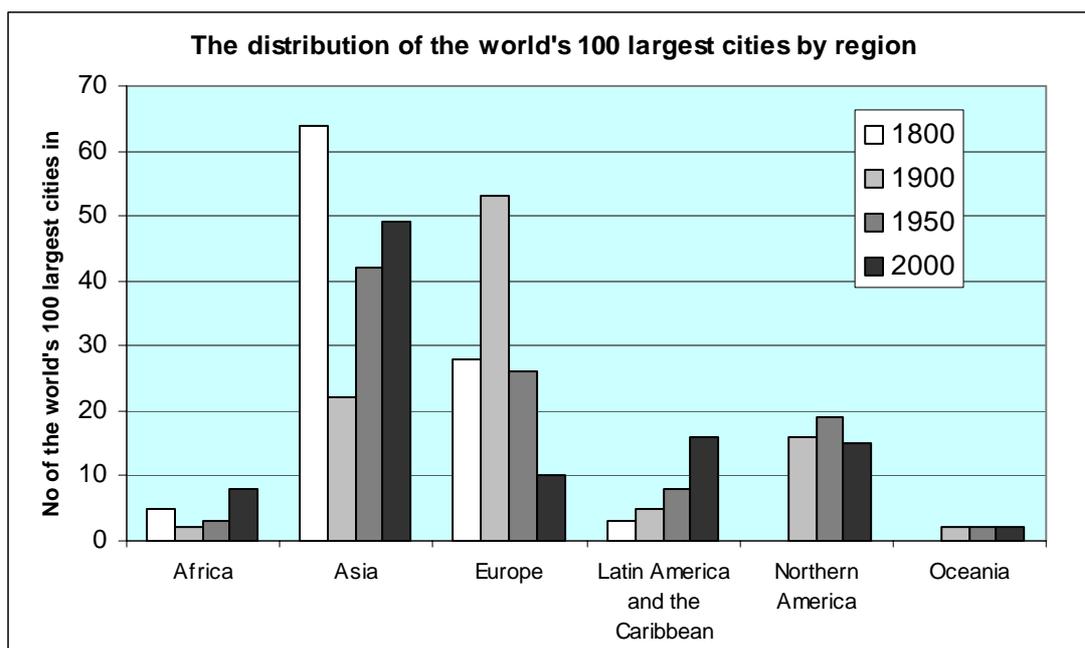
Many aspects of urban change over the last century are unprecedented – for instance, the rate of growth in urban populations and the size and number of very large cities. Also unprecedented is that most of the world's urban population is now in low- and middle-income

nations; throughout history, it is the richest nations that had most of the world's urban population.

Only recently have data from recent censuses become available for most nations, allowing a review of current urban trends. This paper draws on the latest set of urban data from the United Nations Population Division and a review of 70 recent censuses to describe the scale of urban change. It also discusses the economic, social and political drivers of urbanization. For instance, from the 1950s to the 1980s, the political changes associated with the ending of colonial empires and the achievement of independence underpinned rapid urbanization in most nations in Africa and many in Asia, but in recent decades economic changes have been of greater importance.

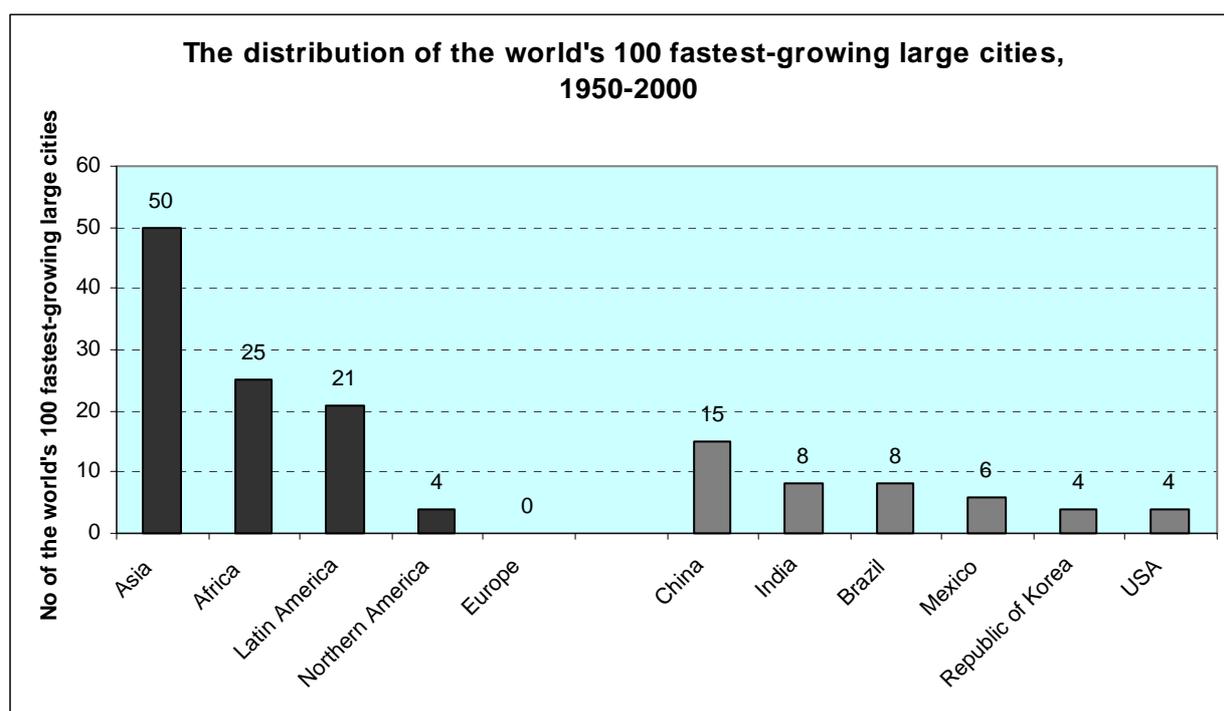
However, the world proved to be less urbanized in 2000 than had been expected. In addition, many of the world's largest cities had several million fewer people in 2000 than had been predicted two decades earlier. There are also fewer "mega-cities" (with 10 million or more people) than anticipated and the year when the world's urban population is predicted to exceed its rural population was put back to 2008; earlier predictions had suggested 2003. However, lower urbanization levels and fewer large cities than expected does not alter the fact that many aspects of urban change in the last 50-60 years are unprecedented in their scale and speed. But this review highlights some surprises:

- many of the largest cities now have more people moving out than moving in;
- Asia may have a large and growing proportion of the world's largest cities but for most of recorded history, it has had most of the world's largest cities. In 2000, it had 49 of the world's 100 largest cities but in 1800, it had 64 of them. Northern America and sub-Saharan Africa have the most "new" large cities (Northern America had none of the world's 100 largest cities in 1800);
- the very rapid decline in the number of the world's largest cities that are in Europe;
- the slowing down of increases in urbanization levels in much of Africa;
- some of the world's fastest-growing cities also have a very good quality of life; and
- rapid urban change is not confined to low- and middle-income nations; for instance, Northern America has some of the world's fastest-growing cities over the last 50 years.



This increasingly urbanized population has been driven by the growing concentration of new investment and employment opportunities in urban areas. Within most nations, the main driver of urban change is best summarized as the geography of where private enterprises choose to concentrate (or to avoid). Obviously, many other factors also influence urban change – for instance, the competence and accountability of city and municipal governments, the structure of national governments (especially the division of responsibilities, funding and fundraising powers between different levels of government) and (often rapidly changing) demographic structures. But economic change seems to be the dominant driver of urbanization in most nations, as shown by:

- the high concentration of urban population and largest cities in the world's largest economies;
- the strong association between a nation's per capita income and its level of urbanization;
- how increases in levels of urbanization for most low- and middle-income nations over the last 50 years track increases in the proportion of GDP generated by industry and services and the proportion of the labour force working in these sectors;
- the evidence that it is generally those nations with the most rapid economic growth that have urbanized most and those with the poorest economic performance that have urbanized least.



NB: This analysis included cities whose population exceeded 1 million inhabitants in 2000

There are many popular myths concerning urban change – for instance, overstating the concentration of the world's urban population in cities and in mega-cities (far more people live in small urban centres than in mega-cities), the assumption that large cities are growing rapidly (most are not) and exaggerations of the speed of urban change in low- and middle-income nations (or in Africa in particular). It is often said that urbanization is partly driven by urban bias in the policies of governments and international agencies, and that sub-Saharan Africa urbanized without economic growth during the 1990s and suffers from “premature

urbanization". This paper suggests that there is little evidence to support these claims, while noting the lack of data or limitations in the data available on these issues.

This paper cautions against general discussions of urban change that are not rooted in careful national and local analyses, and this is illustrated by examples of such analyses from various nations. There may be an underlying economic logic to much urban change but the form it takes is powerfully shaped by political and social factors. These also powerfully influence the extent to which nations and cities have developed the institutions and legal and fiscal frameworks needed to manage rapid urban change – and address the fact that a high proportion of the urban population lives in poor-quality, overcrowded housing, often in illegal settlements lacking good provision for water, sanitation, drainage, health care and schools. Around one person in six, worldwide, lives in very poor-quality accommodation in tenements or informal settlements in urban areas.

Most of the costs associated with rapid urban growth are not caused by the growth itself but rather by the inability of national and local institutions to adapt to the new challenges that this growth presents. This paper gives various examples of rapidly growing cities that have also been relatively successful at addressing these issues. However, it also notes the complex and contested processes needed to get "good urban governance", and the extent to which international agencies have failed to understand and support this.

The validity of long-term projections for city populations and for nations' urban populations up to 2030 and beyond is questionable, largely because future urban and city populations will be so influenced by economic performance. Few economists are prepared to predict the likely economic performance of any nation or city this far into the future. For the many nations experiencing civil wars or political instability, the future – and thus the future for their urban populations and their cities – is very uncertain. The future of many nations' urban (and rural) populations will be much influenced by the extent of appropriate treatment for HIV/AIDS and of effective measures to reduce its transmission. And many cities' future prospects will be greatly influenced by whether appropriate international agreements are reached soon and implemented with regard to reducing greenhouse gas emissions, since they are likely to face increasingly serious risks from the direct and indirect impacts of global warming.

In conclusion, there is no automatic link between rapid urban growth and urban problems. Some of the world's fastest-growing cities are also among the best governed and have some of the best quality of life in their nations. In addition, by concentrating people and enterprises, cities present many opportunities for better services and environmental management and for de-linking a high quality of life from high resource use. There is no reason why well-governed large cities should not achieve the highest standards in terms of quality of life – and also set high environmental standards, through efficient resource use, low waste volumes and low per capita emissions of greenhouse gases.

Finally, with regard to Europe having an ever-lower proportion of the world's urban population and its largest cities, Europe is actually leading the way in showing how economic success need not imply ever-larger cities. But comparable trends are also evident in most other regions of the world, as smaller cities successfully compete with their nation's largest cities for new investment. With advanced transport and communications systems, many new economic activities can prosper in small towns and rural areas. Thus wealthy nations can stop urbanizing, as increasing proportions of their rural population can work from their homes or in rural enterprises and enjoy access to services that have previously only been available to urban populations.

1. Background – an urbanizing world

Introduction

The world's urban population today is around 3.2 billion people¹ – more than the world's total population in 1960. During the 20th century, the urban population increased more than ten-fold. Today, half of the world's population lives in urban centres,² compared to less than 15 per cent in 1900.³ Many aspects of urban change in recent decades are unprecedented, including not only the world's level of urbanization and the size of its urban population, but also the number of countries becoming more urbanized and the size and number of very large cities. Since 1950, many urban changes have been dramatic – with the populations of dozens of major cities growing more than ten-fold, and many growing more than twenty-fold.⁴ Many cities now sprawl for thousands of square kilometres. Most of the world's largest cities are now in Asia, not in Europe and Northern America. Figure 1 contrasts the growth in the world's rural and urban population since 1950, while Box 1 shows how the time needed for one billion people to be added to the world's urban population has fallen.

Box 1: The declining time needed for one billion additional urban dwellers

World's total urban population	Time taken
0 to 1 billion urban dwellers	10,000 years (c.8000 BC–1960)
1 to 2 billion urban dwellers	25 years (1960–1985)
2 to 3 billion urban dwellers	18 years (1985–2003)
3 to 4 billion urban dwellers	15 years (2003–2018)

But these urban statistics tell us nothing about the very large economic, social, political and demographic changes that have underpinned them. These changes include not only the growth in the world's population but also the multiplication in the size of the world's economy, the shift in economic activities and employment structures from agriculture to industry and services (and within services to information production and exchange), and the virtual disappearance of colonial empires. In 1900, the aeroplane, television, cinema, computers and the internet had not been invented, and the automobile and other motor vehicles and telephones had made hardly any impact on the world economy. This paper seeks to combine a description of urban change with some explanation of its causes.

Aggregate urban statistics for categories of nations such as “low-income nations” or “least developed nations” or for continents or regions such as sub-Saharan Africa can also be interpreted as implying comparable urban trends for all the nations within these groupings. But they obscure the often great diversity in urban trends between nations – and also within most nations. They also hide the very particular local and national factors that influence these trends. Aggregate urban statistics may suggest rapid urban change, but a very large proportion of the world's urban centres are not growing rapidly, and a significant proportion are

¹ Unless otherwise stated, the statistics for global, regional, national and city populations are drawn or derived from statistics in United Nations (2006), *World Urbanization Prospects: the 2005 Revision*, United Nations Population Division, Department of Economic and Social Affairs, CD-ROM Edition – Data in digital form (POP/DB/WUP/Rev.2005), United Nations, New York.

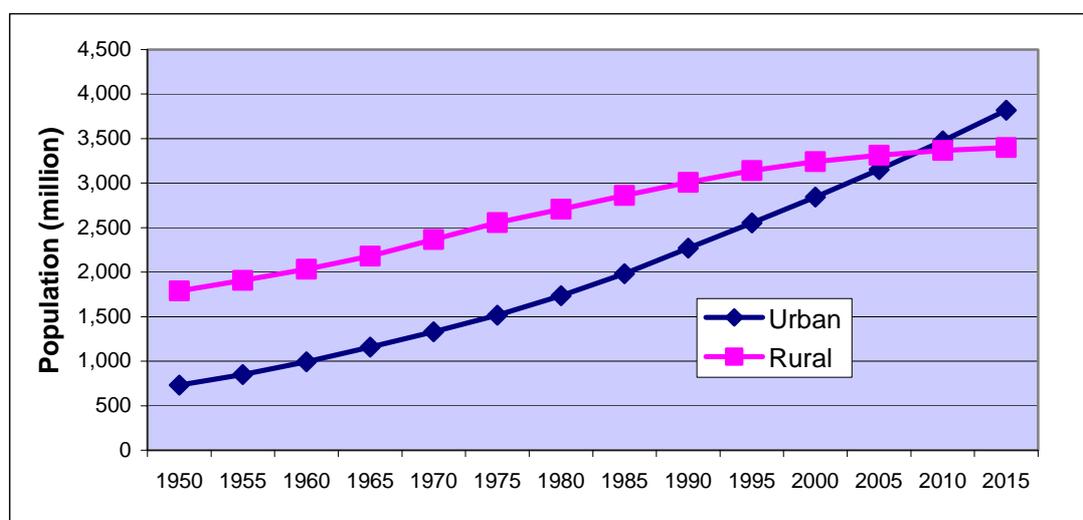
² According to the most recent UN statistics, the transition to more than half the world's population living in urban areas will occur in 2008. However, as discussed in more detail below, it may be that the world became more than half urban some years ago. Many cities under-count their populations, sometimes excluding those living in illegal settlements. Many governments deliberately understate their urban populations by classifying most small urban centres as rural.

³ Graumann, John V (1977), “Orders of magnitude of the world's urban and rural population in history”, *United Nations Population Bulletin* 8, United Nations, New York, pages 16–33.

⁴ See Tables 12 and 13 in the Annexe for many examples.

actually losing population.⁵ Many of the world's largest cities, including Mexico City, Sao Paulo, Buenos Aires, Calcutta and Seoul had more people moving out than in, during their last inter-census period. The increasing number of "mega-cities" with 10 million or more inhabitants may seem to be a cause for concern but there are relatively few of them (17 by 2000); also, they concentrate less than 5 per cent of the world's population and, as described below, they are heavily concentrated in the world's largest economies. Taking a longer-term view of urban change, it is not surprising that Asia has most of the world's largest cities. The growing number of large Asian cities reflects the region's growing importance within the world economy (and Asia has many of the world's largest national economies). Also, Asia has had most of the world's largest cities for most of the last three millennia.

Figure 1: Growth in the world's rural and urban population, 1950–2000 – and projected up to 2015



Box 2: Potential confusions between urbanization and urban growth

In statistical terms, urbanization is an increasing proportion of a population living in settlements defined as urban centres. The immediate cause of most urbanization is the net movement of people from rural to urban areas. There are usually extensive urban-to-rural migration flows too, but urbanization occurs when there is more migration from rural to urban areas than vice versa. Care is needed to avoid confusing urbanization with "urban growth" or "growth in urban population", both of which are absolute terms rather than proportions. Natural increase has had a very important role in the growth of urban populations but not in the increase in levels of urbanization.

Reviewing rates of natural increase for the populations of low- and middle-income nations over the last 70-80 years, these were much higher than those experienced by high-income nations during the late 19th and early 20th centuries – although there is considerable variation between nations in the rates of natural increase and on when these high rates began; the speed with which they have slowed is also much faster than in high-income nations.⁶ Studies of a range of nations for each decade from the 1950s to the 1980s showed that on average, migration and reclassification accounted for around 40 per cent of urban population growth in low- and middle-income nations – but with great variation

⁵ See United Nations, 2006, op. cit., which has many examples of cities with 750,000 or more inhabitants losing population during the 1990s. Forty such cities are reported to have had declines in their populations during the 1990s; 27 of these were in low- and middle-income nations (mostly in East Europe or the Russian Federation, but also including five cities in China). See also Table 14. Analyses of the population growth rates of all urban centres in a nation between censuses usually show a significant proportion with low growth rates, and often many with declining populations.

⁶ Montgomery, Mark R, Richard Stren, Barney Cohen and Holly E Reed (editors) (2003), *Cities Transformed; Demographic Change and its Implications in the Developing World*, The National Academy Press (North America)/Earthscan (Europe), Washington DC, 518 pages.

between nations (from a low of 7 per cent to a high of 77 per cent).⁷ Migration is generally more important for urban population growth in nations with low rates of natural increase and economic growth – for instance, for China, net rural to urban migration accounted for most urban growth 1978-2000 and this is likely to continue.⁸ To give one contrasting example, internal migration only accounted for a fifth of urban population growth in Pakistan, for the last three census periods covering 1961 to 1998.⁹

Virtually all changes in the level of urbanization (the proportion of the population living in urban centres) are caused by movements of people in or out of urban centres. Natural increase in population (an excess of births over deaths) does not contribute to increases in urbanization levels, except where the rate of natural increase in urban centres is higher than that in rural areas, or where natural increase brings a rural settlement's population over a threshold so it becomes reclassified as "urban".

Where the rate of natural increase is higher in urban areas, this is often the result of high proportions of rural-to-urban migrants being of childbearing age, and their movement to urban centres changes urban centres' rate of natural increase. But, within most nations, rates of natural increase are generally lower in urban than in rural areas and often much lower.¹⁰ So, in general, a nation's level of urbanization is not influenced much by population increases. Part of a change in a nation's level of urbanization between censuses is often due to rural settlements growing to the point where they are reclassified as urban (and thus added to the urban population in the new census when, in the previous census, they had been part of the rural population, and obviously natural increase contributes to this), or boundaries of cities or metropolitan areas being extended to include people that were previously classified as rural. There are also examples of changes in a nation's level of urbanization between censuses caused by changes in urban definitions, as discussed in Box 3. Most nations with the highest population growth rates remain relatively little urbanized, and most nations with the lowest population growth rates are among the world's most urbanized nations.

Although rapid urban growth is often seen as a problem, it is generally the nations with the best economic performance that have urbanized most in the last 50 years (see Section 3). In addition, perhaps surprisingly, there is often an association between rapid urban change and better standards of living. Not only is most urbanization associated with stronger economies but, generally, the more urbanized a nation, the higher the average life expectancy and the literacy rate and the stronger the democracy, especially at local level. And of course, beyond all these quantitative measures, cities are also centres of culture, of historic heritage, of social, cultural and political innovation, of fun. The mega-cities may appear chaotic and out of control, but most have life expectancies and provision for piped water, sanitation, schools and health care that are well above their national average – even if the aggregate statistics for each mega-city can hide a significant proportion of their population living in very poor conditions. Some of world's fastest-growing cities over the last 50 years also have among the best standards of living within their nation.¹¹ If our concern is to improve urban conditions, especially for the 900 million people living in very overcrowded dwellings in tenements or shacks lacking basic infrastructure and services,¹² a considerable part of our efforts should focus on relatively small cities or urban centres. And these include thousands of urban centres that are not growing rapidly.

⁷ Chen, N, P Valente and H Zlotnick (1998), "What do we know about recent trends in urbanization?", in Billsborrow, Richard E (editor), *Migration, Urbanization and Development: New Directions and Issues*, United Nations Population Fund, New York, pages 59-88; see also Montgomery, Stren, Cohen and Reed, 2003, op. cit.

⁸ Becker, Charles M (forthcoming), "Urbanization and rural-urban migration", Chapter 34 in Dutt, Amitava and Jaime Ros (editors), *International Handbook of Development Economics*, 19 pages.

⁹ Ara, Iffat and Arshad Zaman (2002), *Asian Urbanization in the New Millennium, Country Chapter*, unpublished report, quoted in Hasan. 2006, op. cit. This report also records the very considerable differences between regions in Pakistan in the relative importance of natural increase, reclassification and internal migration for urban population growth.

¹⁰ Montgomery, Stren, Cohen and Reed, 2003, op. cit.

¹¹ For instance, Curitiba and Porto Alegre, both among the most rapidly growing cities in Latin America over the last 50 years, both with relatively high standards of living; Menegat, Rualdo (2002), "Environmental management in Porto Alegre", *Environment and Urbanization*, Vol. 14, No. 2, October, pages 181-206; Rabinovitch, J (1992), "Curitiba: towards sustainable urban development", *Environment and Urbanization*, Vol. 4, No. 2, October, pages 62-77.

¹² Hardoy, Jorge E, Diana Mitlin and David Satterthwaite (2001), *Environmental Problems in an Urbanizing World: Finding Solutions for Cities in Africa, Asia and Latin America*, Earthscan Publications, London, 470 pages; UN-Habitat (2003), *The Challenge of Slums: Global Report on Human Settlements 2003*, Earthscan Publications, London, 310 pages.

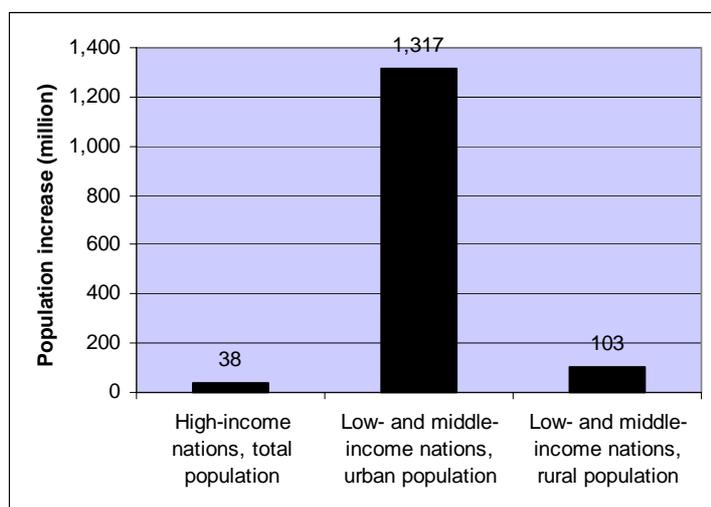
It is also important not to overstate the speed of urban change. Recent censuses show that the world today is less urbanized and less dominated by large cities than has been anticipated. For instance, Mexico City had 18 million people in 2000¹³ – not the 31 million predicted 25 years ago.¹⁴ Kolkata (formerly Calcutta), Sao Paulo, Rio de Janeiro, Seoul, Chennai (formerly Madras) and Cairo are among the many other large cities that, by 2000, had several million fewer inhabitants than had been predicted. In addition, the actual number of “mega-cities”, with more than 10 million inhabitants, in 2000 is much less than had been expected – 17 compared to the 27 predicted 30 years ago.¹⁵

In addition, reviewing the period 1950 to 2000, most sub-regions in the world had slowdowns in their urban population growth rates during the 1990s – including all the sub-regions in Asia (Western, South-Central, Eastern and South-Eastern) and in Latin America and the Caribbean and also in Western, Eastern and Northern Africa; more than half also had slowdowns during the 1980s. For the two sub-regions for which there is not clear evidence of a slowdown in the UN data, for Middle Africa, for most nations, there is no recent census and for Southern Africa, the urban statistics are much influenced by South Africa which has most of the region’s total and urban populations – and where urban growth rates during the 1990s would have been boosted by the dismantling of apartheid controls and the first multi-racial elections.

The regional distribution of the world’s urban population

Most of the world’s urban population is now outside Europe and Northern America (Table 1). Asia alone contains close to half the world’s urban population, even if more than three-fifths of its people still live in rural areas. Africa now has a larger urban population than does Northern America or Western Europe, even though it is often perceived as overwhelmingly rural. The urban population of Africa, Asia, and Latin America and the Caribbean is now nearly three times the size of the urban population of the rest of the world.

Figure 2: United Nations projections for growth in the world’s population, 2005–2025



There has been a rapid increase in the proportion of the world’s total population growth that is absorbed by urban population growth in low- and middle-income countries – from less than a third in the 1950s to more than two thirds during the 1990s – and with projections suggesting around 80 per cent for the current

¹³ Garza, Gustavo (2002), *Urbanization of Mexico during the Twentieth Century*, Urban Change Working Paper 7, IIED, London.

¹⁴ United Nations (1975), *Trends and Prospects in the Population of Urban Agglomerations, as assessed in 1973–75*, Population Division, Department of International Economic and Social Affairs, ESA/P/WP.58, New York.

¹⁵ The United Nations Population Division had predicted that there would be 27 “mega-cities” by the year 2000 in its 1973–75 Assessment (United Nations, 1975, op. cit.), and 23 in its 1984/85 Assessment – United Nations (1987), *The Prospects of World Urbanization, Revised as of 1984–85*, Department of International Economic and Social Affairs, ST/ESA/SER.A/101, New York.

decade.¹⁶ UN projections suggest that urban populations are growing so much faster than rural populations that virtually all the growth in the world's population between 2005 and 2020 will be in urban areas, and nearly all this growth will be in low- and middle-income nations in Africa, Asia and Latin America (Figure 2).¹⁷

There are grounds for doubting whether the growth in population will be this concentrated in urban areas – for instance if much of sub-Saharan Africa has little economic success, its rural population may grow more and its urban population less than implied in this figure. But equally, if China and India continue to enjoy such economic success, they may have larger urban populations in 2020 than those predicted by the United Nations.

Levels of urbanization in certain regions increased dramatically between 1950 and 2000 (see Table 1) – for instance, in Africa from 15 to 36 per cent and in Asia from 17 to 37 per cent. Particular sub-regions had even larger changes – for instance, Western Asia going from 29 to 64 per cent urban in these 50 years, or Eastern Europe going from 39 to 68 per cent. However, the rates of increase in levels of urbanization are not unprecedented; regions in Europe – and also the USA and Japan – had periods when their level of urbanization increased just as rapidly, as discussed in more detail in Box 4.¹⁸

There were also significant changes in the distribution of the world's urban population between regions (see Table 1). In 1950, Europe and Northern America had more than half the world's urban population; by 2000, they had little more than a quarter. Africa had 10 per cent of the world's urban population in 2000 compared to less than 5 per cent in 1950. Asia increased its share of the world's urban population from less than one-third to nearly a half in these same five decades.

This rapid decline in the proportion of the world's urban population in Europe is part of a longer-term trend. In 1910, the nations that now constitute Europe had nearly half of the world's urban population; by 2000, they had 18 per cent. As later sections will describe in more detail, there was also a rapid decline in Europe's share of the world's 100 largest cities during the 20th century and Europe had none of the world's 100 fastest growing large cities between 1950 and 2000. In recent decades, Northern America also had a declining proportion of the world's urban population and it may be that Latin America and the Caribbean now has a declining proportion, after an increasing proportion for most of the 20th century.

¹⁶ Zlotnik, Hania (2004), "World urbanization: trends and prospects", in Champion, Tony and Graeme Hugo (editors), *New Forms of Urbanization: Beyond the Urban-Rural Dichotomy*, Ashgate, Basingstoke, pages 41-64.

¹⁷ There are various middle-income nations in Europe but in aggregate, these are projected to have very little or no increase in their population between 2005 and 2020.

¹⁸ This was a point made by Preston, Samuel H (1979), "Urban growth in developing countries: a demographic reappraisal", *Population and Development Review*, Vol. 5, No. 2, pages 195–215; this statement is still true, if urban trends during the 1980s and 1990s are considered. Samuel Preston also correctly noted that rates of urban population increase (as opposed to rates of increase in the level of urbanization) among low- and middle-income nations were often unprecedented. The nations and regions with the most rapid change in their levels of urbanization are discussed in more detail in Box 3.

Table 1: The distribution of the world's urban population by region, 1950–2010

Region or country	1950	1970	1990	2000*	Projected for 2010
Urban populations (millions of inhabitants)					
WORLD	732	1,329	2,271	2,845	3,475
High-income nations	423	650	818	874	922
Low- and middle-income nations	309	678	1,453	1,971	2,553
"Least developed nations"	15	41	110	166	247
Africa	33	85	203	294	408
Asia	234	485	1,011	1,363	1,755
Europe	277	411	509	522	529
Latin America and the Caribbean	70	163	315	394	474
Northern America	110	171	214	249	284
Oceania	8	14	19	22	25
Urbanization level (percentage of population living in urban areas)					
WORLD	29.0	36.0	43.0	46.7	50.8
High-income nations	52.1	64.6	71.2	73.2	75.2
Low- and middle-income nations	18.1	25.2	35.2	40.3	45.5
"Least developed nations"	7.3	13.1	21.0	24.7	29.0
Africa	14.7	23.4	32.0	36.2	40.5
Asia	16.8	22.7	31.9	37.1	42.5
Europe	50.5	62.6	70.6	71.7	72.9
Latin America and the Caribbean	42.0	57.2	70.9	75.4	79.1
Northern America	63.9	73.8	75.4	79.1	82.1
Oceania	62.0	70.8	70.3	70.5	71.2
Percentage of the world's urban population living in:					
WORLD	100.0	100.0	100.0	100.0	100.0
High-income nations	57.8	49.0	36.0	30.7	26.5
Low- and middle-income nations	42.2	51.0	64.0	69.3	73.5
"Least developed nations"	2.0	3.1	4.8	5.8	7.1
Africa	4.5	6.4	8.9	10.3	11.7
Asia	32.0	36.5	44.5	47.9	50.5
Europe	37.8	30.9	22.4	18.4	15.2
Latin America and the Caribbean	9.6	12.3	13.9	13.9	13.6
Northern America	15.0	12.9	9.4	8.8	8.2
Oceania	1.1	1.0	0.8	0.8	0.7
Nations with largest urban populations in 2000					
China	9.9	10.9	13.9	16.0	17.5
India	8.3	8.3	9.6	9.9	10.3
USA	13.8	11.6	8.5	7.9	7.4
Brazil	2.7	4.0	4.9	5.0	4.9
Russian Federation	6.2	6.1	4.8	3.8	2.9

* The statistics for 2000 are an aggregation of national statistics, many of which draw on national censuses held in 1999, 2000 or 2001 – but some are based on estimates or projections from statistics drawn from censuses held around 1990. There are also some nations (mostly in Africa) for which there are no census data since the 1970s or early 1980s so all figures for their urban (and rural) populations are based on estimates and projections.

SOURCE: Derived from statistics in United Nations (2006), *World Urbanization Prospects: the 2005 Revision*, United Nations Population Division, Department of Economic and Social Affairs, CD-ROM Edition – Data in digital form (POP/DB/WUP/Rev.2005), United Nations, New York.

Some caution is needed when comparing urban trends between nations because of deficiencies in the statistical base. Box 3 describes the large gaps in available data about the size of urban populations in some nations, and the uncertainties with regard to cities' populations and nations' urbanization levels that arise because of different definitions.

Box 3: Urban comparisons that can mislead and confuse

Uncertain city populations. The current population of most of the world's largest urban areas, including London, Los Angeles, Cairo, Shanghai, Beijing, Jakarta, Dhaka and Bombay/Mumbai, can go up or down by many million inhabitants depending on which boundaries are used to define the area within which their population is counted. City boundaries are not set according to universally agreed criteria but according to local and national criteria, and these differ from nation to nation. In addition, most large cities have at least three different figures for their populations, depending on whether it is the city, the metropolitan area or a wider planning (or administrative) region that is being considered – or whether the city population includes the inhabitants of nearby settlements with a high proportion of daily commuters (see Table 3 for some examples).

Varying urbanization levels. The urbanization level for any nation is the proportion of the national population living in urban centres – so it is influenced by how the national government defines what is an "urban centre". For instance, Mexico can be said to be 74 or 67 per cent urban in 2000, depending on whether urban centres are all settlements with 2,500 or more inhabitants or all settlements with 15,000 or more inhabitants.¹⁹ China's level of urbanization in 1999 could have been 24%, 31% or 73% depending on which of three official definitions of urban populations was used.²⁰ India appears to be a predominantly rural nation. But most of India's rural population lives in settlements with between 500 and 5,000 inhabitants that are considered as villages and so classified as rural. If these were classified as "urban" (as they would be by some national urban definitions), India would suddenly have a predominantly urban population. In addition, a significant proportion of India's population lives in "villages" with 5,000 or more inhabitants. An analysis of the 1991 census showed that there were 13,376 villages in India with populations of 5,000 or more; if the 113 million inhabitants of these centres had been classified as urban, India's level of urbanization would have risen from 26 to 39 per cent.²¹

Each nation uses its own criteria for defining urban centres (or for distinguishing them from other settlements). In virtually all nations, official definitions ensure that urban centres include all settlements with 20,000 or more inhabitants, but governments differ in what smaller settlements they include as urban centres – from those that include as urban all settlements with a few hundred inhabitants, to those that include only settlements with 20,000 or more inhabitants. This limits the accuracy of international comparisons of urbanization levels because most nations have a large part of their populations living in settlements with populations in this range of 500 to 20,000 inhabitants.

By 1996, 18 per cent of Egypt's population lived in settlements with between 10,000 and 20,000 inhabitants and that had many urban characteristics including significant non-agricultural economies and occupational structures. These were not classified as urban areas – although they would have been in most other nations. If they were considered urban areas, this would classify Egypt as much more urbanized and would bring major changes to urban growth rates.²² In Pakistan, in 1998, 8.3 per cent of the urban population lived in urban centres with fewer than 25,000 inhabitants – and a

¹⁹ Garza, 2002, op. cit.

²⁰ See Liu, S, X Li and M Zhang (2003), *Scenario Analysis on Urbanization and Rural-Urban Migration in China*, International Institute for Applied Systems Analysis, Vienna; also Zhang, Li (2004), *China's Limited Urbanization under Socialism and Beyond*, Nova Science Publishers, New York, 191 pages and Tacoli, Cecilia and Gordon McGranahan (2007), "Rural-Urban Migration, Urbanization and Inequality in China", in Keiner, Marco (editor) *Sustainable Urban Development in China - Wishful thinking or reality?* Monsenstein und Vannerdat, Münster.

²¹ Visaria, P (1997), "Urbanization in India: an overview" in Jones, G and P Visaria (editors), *Urbanization in Large Developing Countries*, Clarendon Press, Oxford, pages 266–288.

²² Denis, Eric and Asef Bayat (2002), *Egypt; Twenty Years of Urban Transformations*, Urban Change Working Paper 5, IIED, London. Another indication that Egypt's urban definition understates its urban population is the fact that by 1996, two-thirds of the labour force worked in industry and services, although officially, only 43 per cent of the population lived in urban areas.

very considerable proportion of the rural population lived in over a thousand settlements with more than 5,000 inhabitants. The level of urbanization in Pakistan in the 1998 census would have been much higher if the definition of what constitutes an urban centre had not been changed for the 1981 and 1998 censuses. In the 1972 census, a settlement with 5,000 or more inhabitants was considered as urban. This definition was changed so that in the 1981 and 1998 censuses, urban centres were settlements that had municipal governments. As a result, 1,483 settlements with over 5,000 inhabitants in the 1981 census were not considered “urban” – and also not considered urban in the 1998 census – unless they had municipal governments. In addition, the administrative boundaries of most urban centres do not include many “urban” developments that fall outside their boundaries, including some industrial satellites, many dormitory towns from which much of the workforce commutes, developments on their peripheries which in physical, economic and social terms are part of the urban centre, and the ribbons of urban development that often occur along roads or highways between urban centres.²³ In Mauritius, in the 2000 census, around a quarter of the population lived in settlements with between 5,000 and 20,000 inhabitants. These settlements included various district capitals that were not classified as urban areas.²⁴ If they had been classified as urban centres, Mauritius's population would have been more than two-thirds urban in 2000, rather than less than half urban. In Thailand, urbanization levels can vary significantly, depending on which of two administrative classifications of “urban areas” is used.²⁵

Thus, the scale of the world's urban population is strongly influenced by the urban criteria used within the largest population nations. If the Indian or Chinese government chose to change the criteria used in their censuses to define urban centres, this could increase or decrease the world's level of urbanization by several percentage points – and there are good reasons for thinking that the current criteria used in China and India considerably understate the size of the urban population.²⁶ Revisions by, for instance, the Nigerian or Brazilian census authorities could significantly alter the level of urbanization in Africa or South America. In some nations, revisions in their urban definitions are responsible for part of the changes in their urban growth rates and levels of urbanization – for instance, in Pakistan, as described above, and in Bangladesh.²⁷ **Thus, the world's level of urbanization is best understood not as a precise figure (48.7 per cent in 2005) but as being between 45 and 55 per cent, depending on the criteria used to define an urban centre. It may be that the much-discussed transition to more than half the world's population living in urban areas actually took place some years ago, while its recognition has been delayed by various governments deliberately understating their urban populations by classifying most small urban centres as rural.**

Absence of census data. Accurate statistics for nations' urban population or for the population in different urban centres depend on accurate censuses.²⁸ But, in virtually all nations, censuses are taken only every ten years; in some nations, there has been no census for the last 15–20 years. For some nations, the urban population data from recent censuses are still not available. When no census data are available, the United Nations Population Division relies on estimates and projections – both for the urban and rural populations of nations (and hence their level of urbanization and rate at which this is changing) and for the populations of major cities. For many nations, all their urban and city population statistics for 2000 or 2005 or 2010 are based on projections made from data from censuses held 10–20 years ago. For these nations, “urban growth trends” for the 1990s or 2000–2005 are created by the assumptions that went into the methods used in making the projections.

Even in the latest United Nations urban statistical compendium published in 2006, for 20 African nations, there are no census data since 1993; this is also the case for 4 Latin American nations and 8 Asian nations. For 11 African nations, no census data were available for 20 or more years. Tables 12, 13 and 14 with the populations of the world's 100 largest cities, and the 100 fastest and slowest growing cities 1950–2000 includes a column, listing the most recent census for which data were available.

Many nations have had only 1, 2 or 3 censuses since the late 1940s. So for these nations, most of their urban statistics are based on projecting census data available for only one, two or three dates backwards and forwards to get the coverage from 1950 to the present (sometimes assisted by government estimates but whose validity is questionable). For the 2006 UN report, 18 sub-Saharan African nations have 3 or less censuses to draw on to cover the period from the late 1940s to the present; four nations have only one census - DR Congo, Somalia, Eritrea and Chad. Some nations had no census before the 1970s so urban and city populations and trends for the 1950s and the 1960s are based on projections backwards. For Angola, the most recent census data is 1970. Several Asian nations have also had 3 or less censuses in this period; Haiti has had only one and for Lebanon, there are no census data at all.

²³ Hasan, Arif (2006), *The Scale and Causes of Urban Change in Pakistan*, Ushba Publishing International, Karachi, 170 pages.

²⁴ <http://www.clgf.org.uk/2005updates/Mauritius.pdf>; <http://www.citypopulation.de/>.

²⁵ See Krongkaew, Medhi (1996), “The urban system in Bangkok and Thailand”, chapter 9 in Lo and Yeung, editors, *op. cit.*, pages 286–334.

²⁶ UNCHS (Habitat) (1996), *An Urbanizing World: Global Report on Human Settlements, 1996*, Oxford University Press, Oxford and New York.

²⁷ On Bangladesh, see Afsar, Rita (2002), *Urban Change in Bangladesh*, Urban Change Working Paper 1, IIED, London, for Bangladesh.

²⁸ There may be some exceptions to this for certain high-income nations, drawn from alternative official information sources.

The lack of recent census data is particularly notable in sub-Saharan Africa, in part because censuses are seen as expensive, and international donors have been reluctant to support them. There are also obvious problems with the manipulation of census data to serve the interests of the groups in power. But this means that urban population statistics for many sub-Saharan African nations (and several nations in Latin America and Asia) for 2000 or 2005 are based on projections from census data with the most recent census being in the late 1980s or early 1990s. For many such nations, urban trends may have changed dramatically during the 1980s or 1990s or between 2000 and today – as the economic, political and demographic factors underpinning urban population growth or rural–urban migration changed (as described in more detail in Section 3). But this won't be apparent in their urban population statistics since these are based on projections from urban trends in earlier decades.

Circumstances changed so much during the 1980s and 1990s that there are good reasons to believe that urban trends would also have changed – but for many nations, there are no census data to verify this. The World Bank and various other commentators have claimed that sub-Saharan Africa was unusual because it urbanized rapidly without economic growth during the 1990s;²⁹ however, this claim was not based on any census data for urban populations for 2000 but on figures derived from projections from urban trends in the 1970s and 1980s. No reliable urban population data were available for 2000, when the World Bank published this claim. Even today, there are no reliable urban population data for many nations for 2000. There are also indications that much of sub-Saharan Africa is less urbanized than the projections suggested, and that the nations which urbanized most are also generally those with the best economic performance (so sub-Saharan Africa is not urbanizing rapidly without economic growth).³⁰

2. The world's largest and fastest-growing cities

The world's largest cities

Two aspects of the rapid growth in the world's urban population over the last 50–100 years are the increase in the number of large cities and the historically unprecedented size of the largest cities (Table 2 and Figure 3). Just two centuries ago, there were only two “million-cities” (cities with 1 million or more inhabitants) – London and Beijing (then called Peking). By 1950, there were 75; by 2000, 380. A large (and increasing) proportion of these million-cities are in Africa, Asia and Latin America (see Table 2).

The average size of the world's largest cities has also increased dramatically. In 2000, the average size of the world's 100 largest cities was around 6.3 million inhabitants. This compares to 2.0 million inhabitants in 1950, 726,350 in 1900 and 187,520 in 1800.³¹ While there are various examples of cities over the last two millennia that had populations of 1 million or more inhabitants, the city or metropolitan area with several million inhabitants is a relatively new phenomenon – London being the first to reach this size, in the second half of the 19th century.³² By 2000, there were 45 cities with more than 5 million inhabitants.

²⁹ See Box 6.4, page 130 of World Bank (1999), *Entering the 21st Century: World Development Report 1999/2000*, Oxford University Press, Oxford and New York, 300 pages; also Fay, Marianne and Charlotte Opal (2000), *Urbanization without Growth: A Not So Uncommon Phenomenon*, World Bank, Washington DC, 31 pages. Note the uncritical acceptance of there being unprecedented urbanization going hand-in-hand with often declining economies in sub-Saharan Africa in, for instance, Keiser, Jennifer Jürg Utzinger, Marcia Caldas De Castro, Thomas A Smith et al. (2004), “Urbanization in Sub-Saharan Africa and implication for malaria control”, *American Journal of Tropical Medicine and Hygiene*, Vol. 71 (2 suppl), pages 118–127.

³⁰ Potts, Deborah (2006), “Urban growth and urban economies in Eastern and Southern Africa: Trends and Prospects” in Bryceson, Deborah Fahy and Deborah Potts (editors), *African Urban Economies: Viability, Vitality or Vitiating?*, Palgrave Macmillan, Basingstoke, pages 67–98; also Potts, Deborah (1995), “Shall we go home? Increasing urban poverty in African cities and migration processes”, *The Geographic Journal*, Vol. 161, Part 3, November, pages 245–264. See also Beauchemin, Cris and Philippe Bocquier (2004), “Migration and urbanization in Francophone West Africa: An overview of the recent empirical evidence”, *Urban Studies*, Vol. 41, No. 11, pages 2245–2272.

³¹ This repeats the analysis in Satterthwaite, 1996, op. cit., drawing on the most recent UN publication of urban statistics (United Nations 2006, op. cit.).

³² Chandler, Tertius and Gerald Fox (1974), *3000 Years of Urban Growth*, Academic Press, New York and London.

Table 2: The distribution of the world's largest cities by region over time

Region	1800	1900	1950	2000
Number of "million cities"				
World	2	17	75	380
Africa	0	0	2	37
Asia	1	4	28	192
China	1	2	12	86
India		1	5	32
Europe	1	9	22	53
Latin America and the Caribbean	0	0*	7	51
Northern America	0	4	14	41
USA		4	12	37
Oceania	0	0	2	6
Regional distribution of the world's largest 100 cities				
World	100	100	100	100
Africa	5	2	3	8
Asia	64	22	42	49
China	23	13	18	17
India	19	4	6	8
Europe	28	53	26	10
Latin America and the Caribbean	3	5	8	16
Northern America	0	16	19	15
USA	0	15	17	13
Oceania	0	2	2	2
Average size of the world's 100 largest cities (population)	184,270	726,350	2,000,000	6,300,000

* Some estimates suggest that Rio de Janeiro had reached 1 million inhabitants by 1900 while other sources suggest it has just under 1 million.

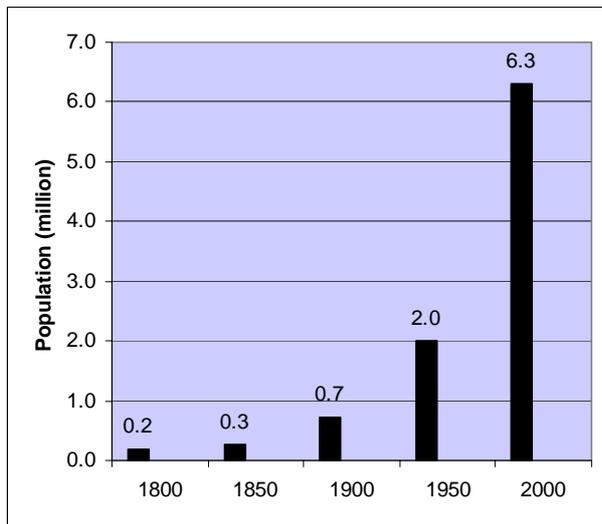
For 1950 and for 2000, this uses only the data in United Nations (2006). Combining data on city populations from different sources can create problems because these sources often use different criteria. For instance, for Germany, there are various different interpretations of where major city and metropolitan area boundaries should be drawn which greatly influences the number of German cities in any "large-" or "million"- city list. In the previous United Nations *World Urbanization Prospects* (published in 2004), different criteria from the above were used that meant there were many more "million-cities" in Germany.

Cities that have changed their country-classifications and nations that have changed regions are considered to be in the country or region that they are currently in for this whole period. For instance, Hong Kong is counted as being in China for all the above years, while the Russian Federation is considered part of Europe. Some figures for city populations for 2000 are based on estimates or projections from statistics drawn from censuses held around 1990. There is also a group of countries (mostly in Africa) for which there is no census data since the 1970s or early 1980s, so all figures for their city populations are based on estimates and projections. The regional distribution of cities in 1950 and 2000 is, in part, influenced by how cities/ urban agglomerations are defined within nations (see Box 3).

SOURCES: This is an updated version of a table in Satterthwaite, David (1996), *The Scale and Nature of Urban Change in the South*, IIED Working Paper, IIED, London. For 1950 and 2000, the data are drawn only from United Nations (2006), op. cit. For 1900 and 1800, data came from an IIED database with census data and estimates for city populations drawn from a great range of sources, including Chandler, Tertius and Gerald Fox (1974), *3000 Years of Urban Growth*, Academic Press, New York and London; Chandler, Tertius (1987), *Four Thousand Years of Urban Growth: An Historical Census*, Edwin Mellen Press, Lampeter, UK, 656 pages; and Showers, Victor (1979), *World*

Facts and Figures, John Wiley and Sons, Chichester, 757 pages. For Latin America, it also drew on a review of 194 published censuses.

Figure 3: Average size of the world's largest 100 cities, 1800, 1850, 1900, 1950 and 2000



Source: See Table 2

Table 2 also shows the dramatic changes in the distribution of the world's largest cities. In 1900, Europe and Northern America had 69 of the world's 100 largest cities, but by 2000 this had shrunk to 25. By 2000, Asia alone had 49 of the world's 100 largest cities, compared to 22 in 1900. This growing proportion of the world's largest cities in low- and middle-income nations in Africa, Asia and Latin America is often highlighted as a particular concern. However, this is not so much a dramatic shift in the geographic distribution of the world's largest cities but rather a return to what was apparent prior to the industrial revolution.³³ Throughout most of recorded history, Asia has had a high proportion of the world's largest cities; in 1800, it had 63 of the world's 100 largest cities,³⁴ and India and China both had more of the world's 100 largest cities in 1800 than they do today. South and Central America and North Africa have also long had large cities.

New and old large cities

Despite the speed of change in urban populations, there is a (perhaps surprising) continuity in the location of important urban centres in almost all regions. Despite the common assertion that new cities are “mushrooming” as part of rapid urban change, most of the largest urban centres in Europe, Latin America, Asia and North Africa today have been important urban centres for centuries, and many have been urban centres for millennia. For the 380 “million-cities” in 2000, nearly three-quarters were already urban centres 200 years ago,³⁵ while more than a fifth have been urban centres for at least 500 years.³⁶ One in five of the world's 380 largest cities in 2000 had already been founded 2000 years ago.

³³ Bairoch, Paul (1988), *Cities and Economic Development: From the Dawn of History to the Present*, Mansell, London, 574 pages.

³⁴ Obviously, the statistical base for assessing which were the world's 100 largest cities in 1800 is less robust than for recent decades – but the concentration in Asia of most of the world's largest cities prior to the industrial revolution is not in doubt.

³⁵ At least 282 of the 380 “million-cities” were urban centres by 1800 AD. This is likely to be an under-estimate because some of today's “million-cities” for which no details or population data were found for 1800 are likely to have been urban centres in 1800.

One of the most dramatic changes in the geographic distribution of the world's largest cities over the last two centuries is the appearance of cities from Northern America and Oceania – related to the appropriation of the USA, Canada and Australia by immigrants and the urban/industrial economies they developed. In 1800, neither of the USA's two largest cities (Philadelphia and New York) was large enough to be within the world's 100 largest cities. Within regions, the shift within Africa is notable, as a growing proportion of its largest cities are in sub-Saharan Africa whereas, historically, most of its largest cities have been in North Africa.

Both Africa and Asia had more of the world's 100 largest cities in 1800 than they did in 1900 or 1950. In 1800, Africa's largest cities included Cairo, Tunis and Algiers, with long histories as important Islamic cities, Meknes (only recently displaced as the capital of Morocco), and various important cities in what is today Nigeria – for instance Sokoto, then the capital and key trade centre of Northern Nigeria and Oyo, capital of what was at that time the most important state in south-west Nigeria. One key reason for the decline in the proportion of African cities within the world's largest cities was colonial rule which curtailed the economic and political roles of key national or regional capitals, kept down urban growth and often suppressed or controlled the economic activities associated with urban development. Asia had a much larger share of the world's 100 largest cities in 1800 than in 1900 or 1950 – and more than in 2000. This in part also reflects the impact of colonial rule. It also reflects the decline in the importance of most Asian cities within the world's economy at least until recent decades.

Perhaps surprisingly, Northern America and sub-Saharan Africa have most “new large cities”, i.e. cities that now have more than 1 million inhabitants but which had not been founded or did not exist as urban centres by 1800. Table 2 also highlights how Europe had few of the world's 100 largest cities by 2000 whereas in 1900 it had more than half these cities. In part, this reflects the growing economic importance of other continents. But it also reflects how urban form has changed in Europe, with more dispersed urban systems and with large sections of cities' working populations commuting from outside city boundaries. If the population of European cities is measured in ways that include settlements where much of the working population commutes to the city, the number of European “million-cities” increases very considerably.

The difficulties in comparing city populations and their growth rates

In 2000, the population of New York City was 8 million; for New York Metropolitan Area, the figure was 9.3 million; for New York–Northern New Jersey–Long Island consolidated metropolitan statistical area, 21.2 million,³⁷ and all these are valid population statistics for “New York”. In 2000, Manila could be said to have 1.6 million inhabitants (the population of the city) or 9.9 million (the population of the national capital region). The populations of Bangkok, Beijing, Cairo, Dhaka, Jakarta and Mexico City in 2000 vary by several million, depending on whether the figure is for the city or the larger “urban agglomeration” or city-region. Table 3 gives more details for some of these cities and some other cities.

The list of “the world's largest cities” compiled by the UN Population Division seeks to base the population statistics for each city on the same criterion of urban agglomeration. However, inevitable differences in how each government defines city boundaries, and differences in the spatial structure of large cities limit the validity of inter-city comparisons. The population figures for some large cities are for the people living within long-established city boundaries enclosing areas of only 20–200 square kilometres while, for others, they are for regions with many thousands of square kilometres and a significant proportion of the population

³⁶ These statistics almost certainly considerably understate the extent to which the world's largest cities today have long been important urban centres. This is related to the incompleteness of historic records for city populations, despite the efforts of scholars such as Tertius Chandler and Paul Bairoch to fill this gap.

³⁷ US Census Bureau, quoted in http://212.204.253.230/cd/us_agg2.php.

Table 3: Examples of how the populations of urban areas change with different boundaries

City or metropolitan area	Date	Population	Area (km ²)	Notes
Beijing ³⁸ (China)	1990	2,336,544 c.5,400,000 6,325,722 10,819,407	87 158 1,369 16,808	Four inner-city districts, including the historic old city “Core city” Inner-city and inner-suburban districts Inner-city, inner- and outer-suburban districts and 8 counties
Buenos Aires (Argentina) ³⁹	2001	2,776,138 11,461,175 12,045,921	203 3,833	Ciudad de Buenos Aires (Federal District) Gran Buenos Aires (The city of Buenos Aires and 24 municipalities within the Province of Buenos Aires) Aglomerado Gran Buenos Aires; The above plus some of the area of an additional 8 municipalities that contain part of the built up area of Buenos Aires but are not administratively part of Gran Buenos Aires
Cairo (Egypt) ⁴⁰	1996	6,867,000 10,172,000 13,467,000	311 549 1,581	Cairo (often known as Governorate of Cairo) Cairo with Giza-Qalyūbiyya Metropolitan area
Dhaka (Bangladesh) ⁴¹	2001	5,333,571 9,923,000	6 360 1,325 1,528	Historic city Dhaka City Corporation Dhaka Statistical Metropolitan Area Rajdhani Unnayan Kartripakhya (RAJUK) – the jurisdiction of Dhaka’s planning authority
London (UK) ⁴²	2003	9,200 2,905,000 7,388, 12,530,000	3 319 1,572	The original “city” of London Inner London Greater London (32 boroughs and the city of London) London “metropolitan region” ⁴³
Los Angeles (USA)	1990	3,000,000 8,700,000 8,863,000 14,532,000	752 10,635 6,526 88,000	Los Angeles City Los Angeles County Los Angeles–Long Beach Primary Metropolitan Statistical Area Los Angeles Consolidated Metropolitan Statistical Area

³⁸ Information supplied by Richard Kirkby based on data from the 1990 census, in *Zhongguo renkou tongji nianjian 1992* (Yearbook of Population Statistics, 1992), Beijing, Jingji guanli chubanshe (Economic Management Press), page 448; also (for area) Beijing Municipal Statistics Bureau (1988), *Beijing Statistics in Brief*, Beijing, China Statistical Publishing House, page 1. Apart from the educational quarter in the Haidian District (north-west) and the steel works and heavy industrial area of Shijingshan (west), prior to the 1980s economic boom the city proper could be broadly defined as that area within the *san huan lu* – the Third Ringroad. This encircles an area of just 158km² in a total municipality spanning almost 17,000km². Its population comprises all of the four inner-city districts and parts of the four inner-suburban districts. In total, this “core city” comprises only around half of the 10.82 million official residents of the capital in 1990.

³⁹ Drawn from official statistics at <http://www.indec.gov.ar/nuevaweb/cuadros/2/p020201.xls>;

<http://www.indec.mecon.ar/nuevaweb/cuadros/1/folleto%20gba.pdf>

⁴⁰ Bayat, Asef and Eric Denis (2000), “Who is afraid of Ashwaiyyat: urban change and politics in Egypt”, *Environment and Urbanization*, Vol. 12, No. 2, pages 185-199.

⁴¹ 2001 population figures from Islam, Nazrul and Salma A. Shafi (2004), “Solid waste management and the urban poor in Dhaka”, Presentation to the Forum on Urban Infrastructure and Public Service Delivery for the Urban Poor Regional Focus: Asia, Woodrow Wilson International Centre for Scholars and the National Institute of Urban Affairs, Delhi, <http://www.wilsoncenter.org/topics/docs/Islam%20and%20Shafi.doc>; areas from BCAS (2005), *Dhaka City State of Environment: 2005*, <http://www.bcas.net/DhakaSoE/>.

⁴² Drawn from official statistics at <http://www.london.gov.uk/gla/>

⁴³ UNCHS, 1996, op. cit, drawing on a background paper by AG Champion.

Mexico City (Mexico) ⁴⁴	2000	1,688,401 8,600,000 17,900,000 19,400,000	133 1,489 2,000 n.d	The central city The Federal District Mexico City Metropolitan Area Megalopolis of Central Mexico
Mumbai (India) ⁴⁵	2001	3,300,000 11,910,000 17,800,000	68 468 4,355	The island city Greater Mumbai Mumbai Metropolitan Region
Paris (France) ⁴⁶	1999	2,077,806 9,644,507 11,131,000 12,185,000 15,692,000	87 2,723 12,070 20,390 43,110	Ville de Paris Paris (unité urbaine) Ile-de-France region Paris Megacity Region Bassin Parisien FURs
Tokyo (Japan)	1990	8,164,000 11,856,000 31,559,000 39,158,000	598 2,162 13,508 36,834	The central city (23 wards) Tokyo prefecture (Tokyo-to) Greater Tokyo Metropolitan Area (including Yokohama) ⁴⁷ National Capital Region. ⁴⁸
Toronto (Canada)	1991	620,000 2,200,000 3,893,000 4,100,000 4,840,000	97 630 5,583 7,061 7,550	City of Toronto Metropolitan Toronto Census Metropolitan Area Greater Toronto Area Toronto CMSA equivalent ⁴⁹

living in rural settlements and working in agriculture. The population figures usually given for the largest Chinese cities such as Shanghai, Beijing and Tianjin are actually for the populations in large local government areas that include significant proportions of people living in rural areas and working in forestry and agriculture. Shanghai municipality encompasses ten counties, of which Shanghai City is one, and includes large rural areas within its total area of over 6,000 square kilometres. Beijing municipality covers 16,800 square kilometres. In China, statistics for city populations also vary depending on how people are registered – for instance, in Shanghai, the population can vary by several million depending on whether the “floating” population is included. This confusion between local government area and city area explains why the city of Chongqing sometimes appears as the world’s largest or second largest city, with a population of 30 million, but this is the population in the municipality, which covers 82,400 square kilometres (about the size of Austria or of all of the Netherlands and Denmark combined); the city population is around 6 million.

⁴⁴ Garza, Gustavo (coordinador) (2000), *La Ciudad de México en el fin del segundo milenio*, Gobierno del Distrito Federal and El Colegio de Mexico, Mexico, 768 pages; Garza, 2002, op. cit.; and Garza, Gustavo (2004), "The transformation of the urban system in Mexico", in Champion, Tony and Graeme Hugo (editors), *New Forms of Urbanization: Beyond the Urban-Rural Dichotomy*, Ashgate, Aldershot, pages 153-170. The megalopolis of Central Mexico encompasses Puebla, Cuernavaca, Toluca, Querétaro and Pachuca. There are also various other possible definitions for the population and area of Mexico City agglomeration, depending on which peripheral municipalities are included or excluded.

⁴⁵ <http://www.mmrdaumbai.org/>

⁴⁶ For populations and areas for Ville de Paris and Unité Urbaine, <http://www.insee.fr/>; for other areas and populations, see Halbert, Ludovic (2006), "The Paris region: polycentric spatial planning in a monocentric metropolitan region", in Hall, Peter and Kathy Pain (editors), *The Polycentric Metropolis: Learning from Mega-city Regions in Europe*, Earthscan Publications, London, pages 180-186.

⁴⁷ This ensures the inclusion within Tokyo of the vast suburban areas, and includes Tokyo-to (including the islands) and Chiba, Kanagawa and Saitama Prefectures.

⁴⁸ Includes Greater Tokyo Metropolitan Area plus Yamanashi, Gunma, Tochigi and Ibaraki Prefectures.

⁴⁹ This is what Toronto’s population might be if it was defined according to the methodology used in the United States for defining Consolidated Metropolitan Areas. This would include Toronto Metropolitan Area, the adjacent Hamilton CMA (0.6 million), Oshawa CMA (0.24 million) and the rest of York County.

There are also many major cities that are within clusters of other cities and smaller centres but with these other urban centres beyond their metropolitan boundaries and these clusters might also be considered as agglomerations. For instance, China has several urban clusters with one or two major cities as their core – see for instance the Pearl River Delta urban cluster that includes Hong Kong, Guangzhou and Shenzhen which if considered as a single metropolitan area would be among the world's largest cities.⁵⁰ Also the Beijing-Tianjin-Tangshan cluster and the Yangtze River Delta cluster centred on Shanghai.⁵¹ Germany has many clusters which also explains the many different ways in which its large city populations are classified; the Rhine-Ruhr mega-city region had 11.7 million inhabitants in 2000 and included Essen, Dusseldorf, Cologne and Bonn.⁵² Mexico City can be considered at the core of a Central Mexico megalopolis with some 25 million inhabitants which encompasses 173 municipalities and includes the metropolitan areas of Mexico City, Puebla, Cuernavaca, Toluca and Pachuca.⁵³ Some of these clusters of cities cross national boundaries – as in, for instance, Tijuana-San Diego in Mexico and the USA (with around 5 million inhabitants) and Singapore-Johore-Riau⁵⁴ in Malaysia, Singapore and Indonesia.

Some cities have boundaries that greatly understate their real populations because they do not include large, dense settlements that have developed just outside the official city boundaries. For instance, the population of Colombo in Sri Lanka is often given as around 642,000, but this was the population in 2001 in “Colombo municipal council”; the urban agglomeration of which this municipal council is at the centre has a much larger population (and Colombo District's urban population was 1.2 million in 2001).⁵⁵ London could easily re-establish itself among the world's largest cities if the Greater London Authority was able to convince the national government to create a new London municipality incorporating neighbouring counties such as Surrey, Kent, Essex, Hertfordshire, Buckinghamshire and Berkshire⁵⁶ – as happened for Shanghai – although one suspects a certain reluctance among most of those living in these counties for such a reform.

Finally, different boundaries also mean different population growth rates – so London, Los Angeles, Tokyo, Buenos Aires, Mexico City and many other cities can be stated correctly as having had declining or expanding populations in recent decades, depending on which boundaries are used for calculations of urban population growth.⁵⁷ Cairo and Shanghai are reported as having had shrinking populations during their last inter-census period – although whether or not they did also depends on which boundaries are used. In addition, large increases in a city's population between two censuses are often partly due to an expansion of boundaries that suddenly incorporate many settlements not included as part of the city in the earlier census. For instance, this in part explains the rapid growth in Dhaka and some other cities in Bangladesh during the 1980s and early 1990s.⁵⁸ In South Africa, some of the large increase in the urban population shown by the

⁵⁰ See Fu-chen Lo and Yue-man Yeung (1996), "Global restructuring and emerging urban corridors in Pacific Asia," pages 17-47 and Chu, David KY (1996), "The Hong Kong-Zhujiang Delta and the world city system", pages 465-497, in Lo and Yeung, editors, op. cit.

⁵¹ Gar-on Yeh, Anthony and Xueqiang Xu (1996), "Globalization and the urban system in China", in Lo and Yeung, editors, op. cit., pages 219-267.

⁵² Knapp, Wolfgang, Daniela Scherhag and Peter Schmitt (2006), "RhineRuhr: policentricity at its best" in Hall and Pain, 2006, op. cit., pages 154-162.

⁵³ Garza, 2002 and 2004, op. cit.

⁵⁴ Macleod, Scott and T G McGee (1996), "The Singapore-Johore-Riau Growth Triangle: an emerging extended metropolitan region", in Lo and Yeung, editors, op. cit., pages 417-464.

⁵⁵ These are drawn from official statistics; see <http://www.statistics.gov.lk/census2001/population/district/t002a.htm>.

⁵⁶ See Hall, Peter, Kathy Pain and Nick Green (2006), "Anatomy of the polycentric metropolis: Eight mega-city regions in overview" in Hall and Pain, 2006, op. cit., pages 19-64; this defines a mega-city region, South East England, with 19 million people and covering 29,184 square kilometres.

⁵⁷ For a discussion of the different population growth rates of major Asian cities, depending on which boundaries are used, see Jones, Gavin W (2004), "Urbanization trends in Asia: the conceptual and definitional challenges", in Champion, Tony and Graeme Hugo (editors), *New Forms of Urbanization: Beyond the Urban-Rural Dichotomy*, Ashgate, Aldershot, pages 113-150; other chapters in this volume also discuss this for other nations and regions.

⁵⁸ Afsar, 2002, op. cit.

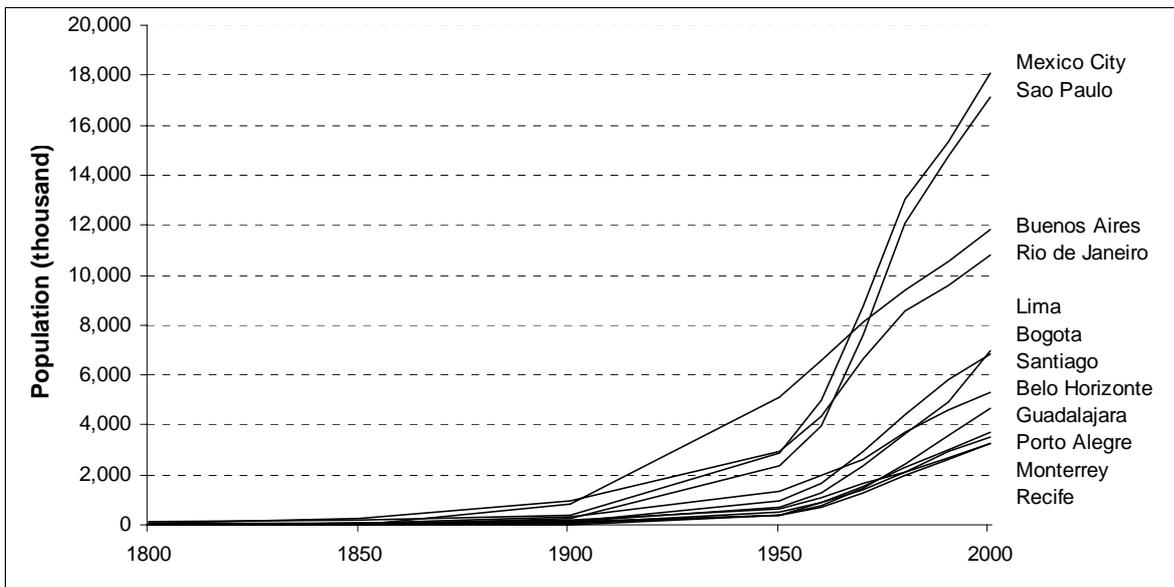
1996 census was due to the inclusion in 1996 of the African urban population living in the “independent” states created by the apartheid regime, and which had been excluded from censuses in 1980 and 1991.⁵⁹

The change in scale for large cities

Figures 4–12 show the population growth of the 12 largest cities in Latin America, North America, Asia, Africa and Europe between 1800 and 2000 – and also in the USA, Brazil, India and China (the nations with the world’s largest urban populations). These highlight the speed with which the scale of the largest cities changed. In 1800, worldwide, a city of 100,000 was a major city – and there were only around 80 cities in the world that exceeded this size at that time. Only twelve cities had over 300,000 inhabitants; only two had more than 1 million, and none exceeded 2 million.

By 1900, more than 200 cities had over 100,000 inhabitants and there were 17 ‘million-cities’. But, as yet, there was no ‘mega-city’ of 10 million or more inhabitants and only London had more than 5 million inhabitants. Most of the million-cities of 1900 are still today among their region’s largest cities and so feature in Figures 4–12; the exceptions are Vienna/Wein (in 1900, capital of the Austro-Hungarian empire) and three UK cities that were central to the industrial revolution and the British Empire – Manchester, Birmingham and Glasgow. The three British cities are still among the largest and most important cities in the UK but no longer among the world’s largest and most important cities. Figures 4–12 also illustrate that it is not only in low- and middle-income nations that the largest cities have grown very rapidly to sizes that are unprecedented.

Figure 4: Population growth for Latin America’s largest cities in 2000 over two centuries



In Latin America, as shown in Figure 4, one set of cities started growing rapidly in the late 19th century and first half of the 20th century – especially Buenos Aires and Rio de Janeiro, both of which had close to a million inhabitants by 1900, but also Mexico City, Sao Paulo and Santiago.

⁵⁹ Crankshaw, Owen and Susan Parnell (2002), *Urban Change in South Africa*, Urban Change Working Paper 4, IIED, London.

Figure 5: Population growth for North America’s largest cities in 2000 over two centuries

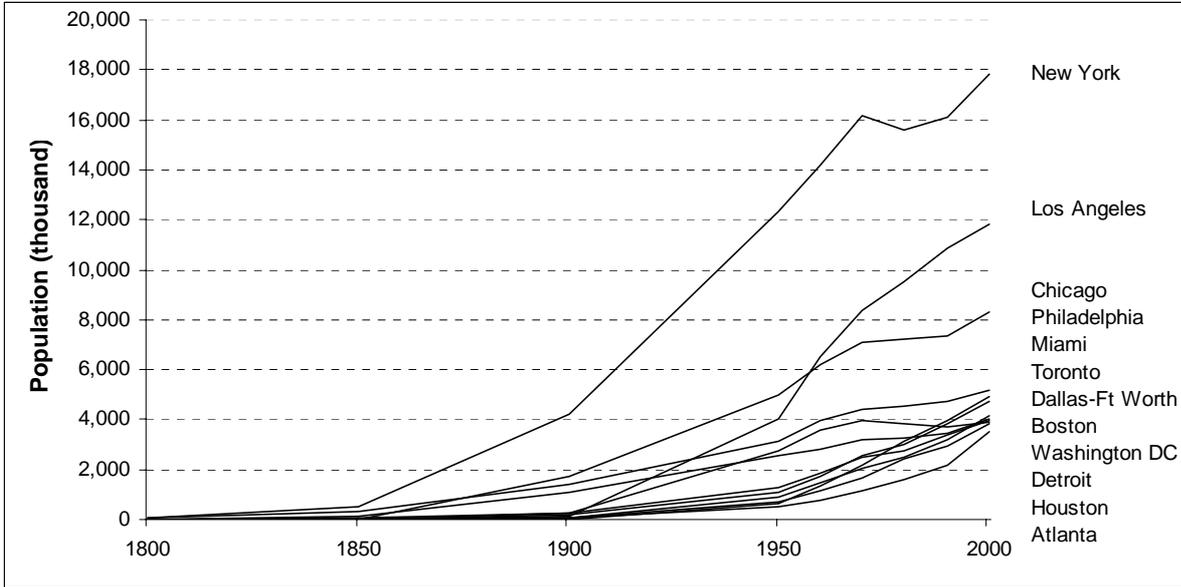
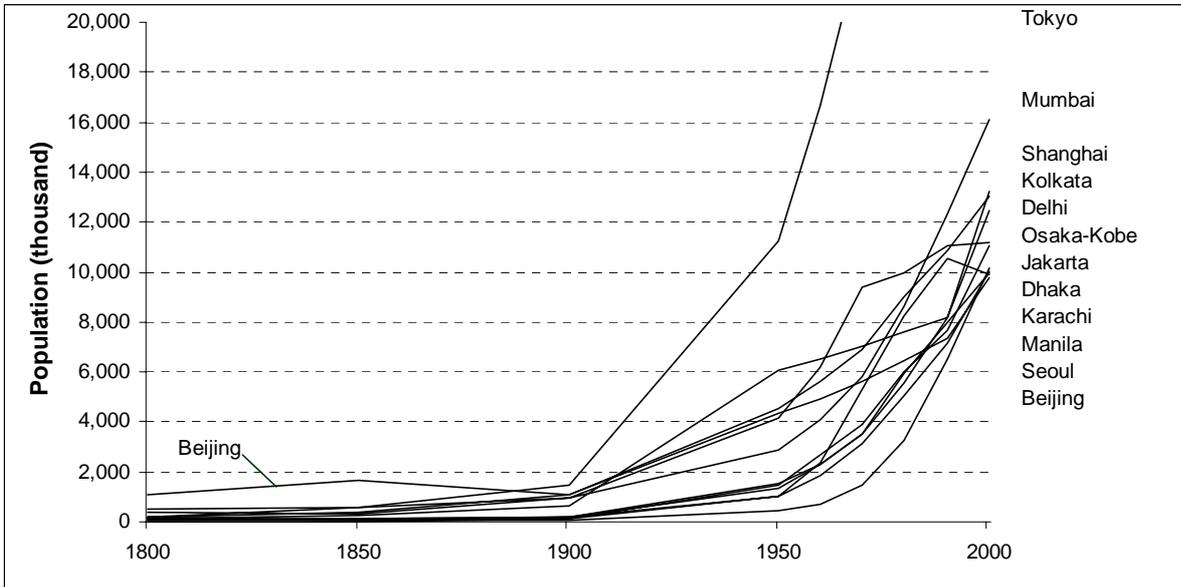


Figure 6: Population growth for Asia’s largest cities in 2000 over two centuries



Tokyo goes beyond the boundaries of Figure 6: by the mid-1960s its population exceeded 20 million and by 2000 it was 34.5 million. Some Asian cities were relatively large in 1800; Beijing (then Peking) had more than a million inhabitants, while Tokyo had close to half a million and most of the others had more than 150,000. Figure 6 shows how one set of cities started growing rapidly in the first half of the 20th century (Tokyo, Shanghai, Beijing, Kolkata, Osaka), while rapid growth took place in the second half of the 20th century for others such as Seoul and Dhaka.

Figure 7: Population growth for Africa’s largest cities in 2000 over two centuries

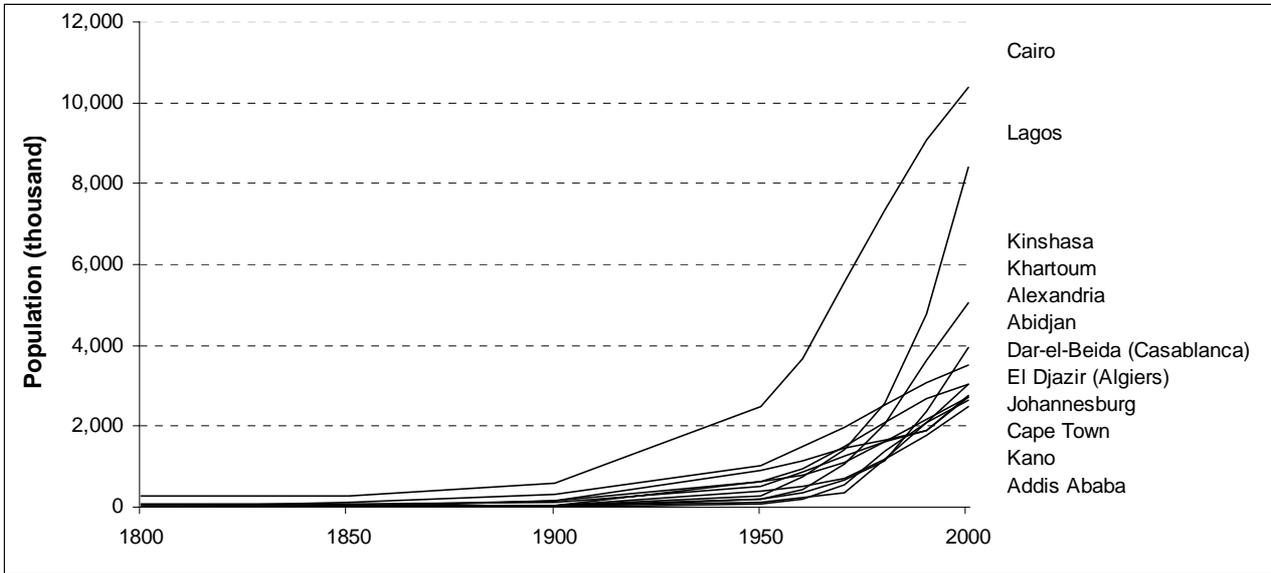
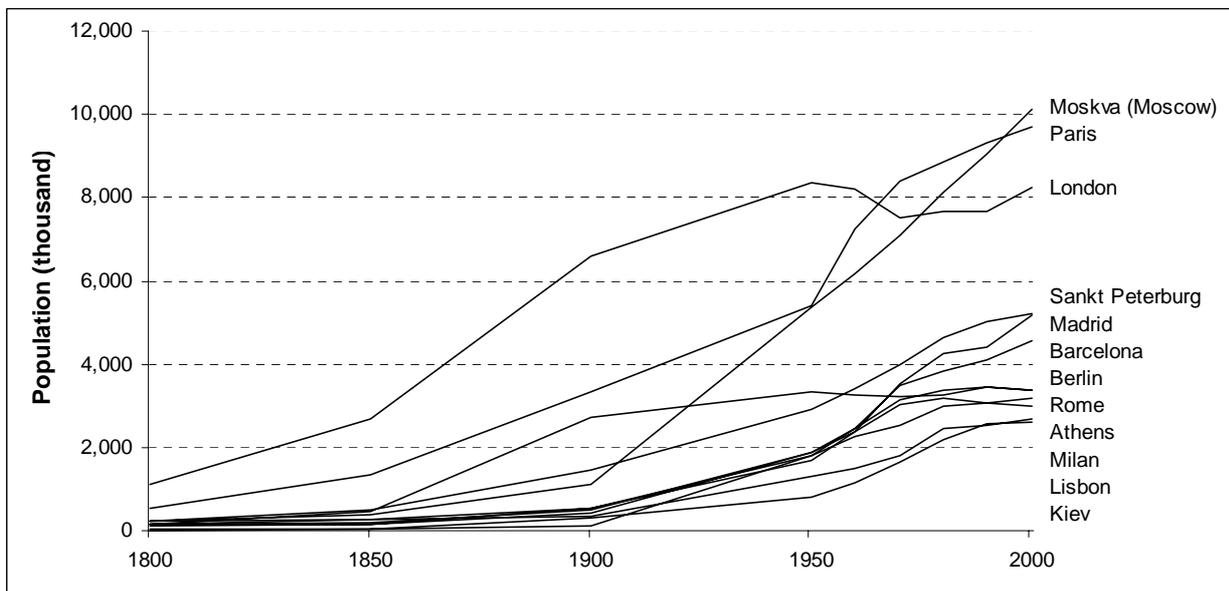


Figure 8: Population growth for Europe’s largest cities in 2000 over two centuries



Some caution is needed in interpreting Figure 7, as there are no recent census data for many of the cities included. Note the smaller range of the vertical axis for both Figure 7 and Figure 8; both extend to populations of only 12 million, compared to the other graphs in this section extending to 20 million. In Europe (Figure 8), two cities were already major cities by 1800: London with more than a million inhabitants and Paris with more than half a million. By 1850, there were two other cities with around half a million – Saint Petersburg and Berlin, national capitals for what were then two of the nations with the largest populations in Europe.

Figure 9: Population growth for the USA’s largest cities in 2000 over two centuries

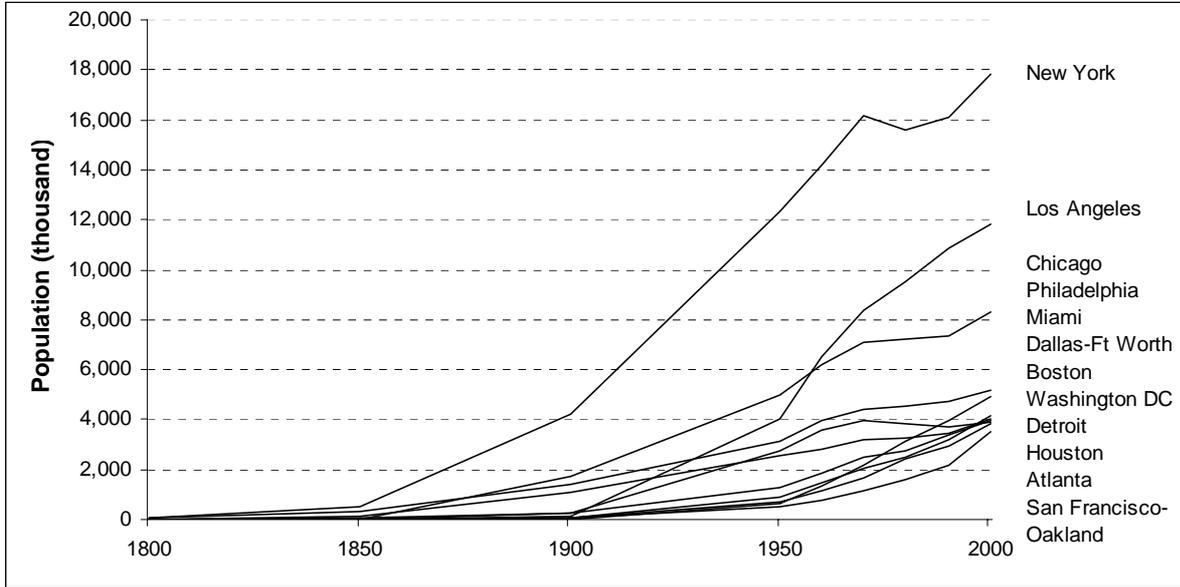


Figure 10: Population growth for Brazil’s largest cities in 2000 over two centuries

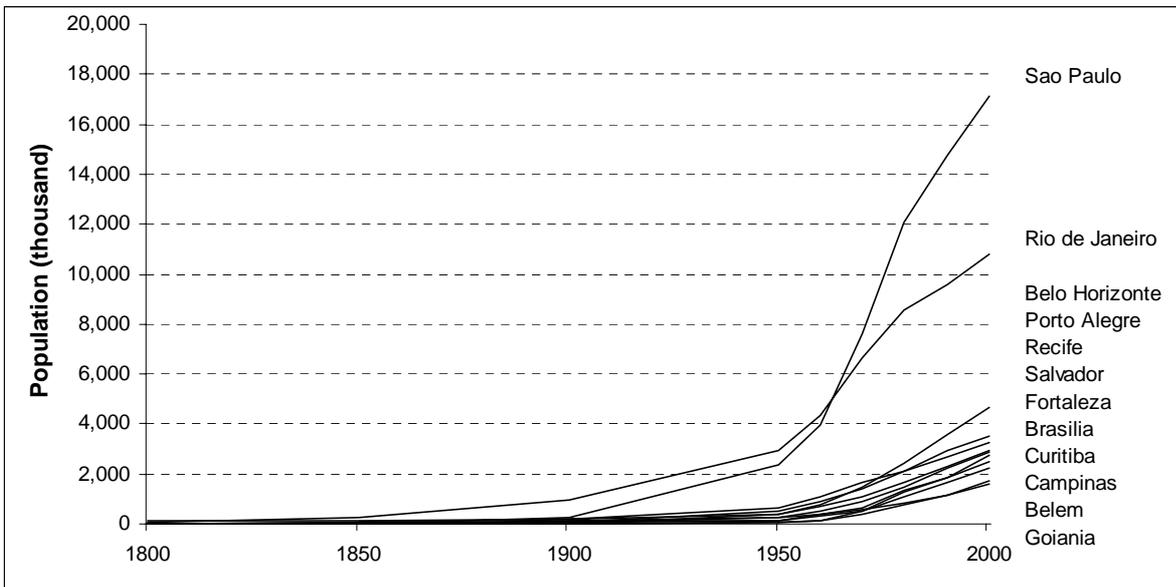
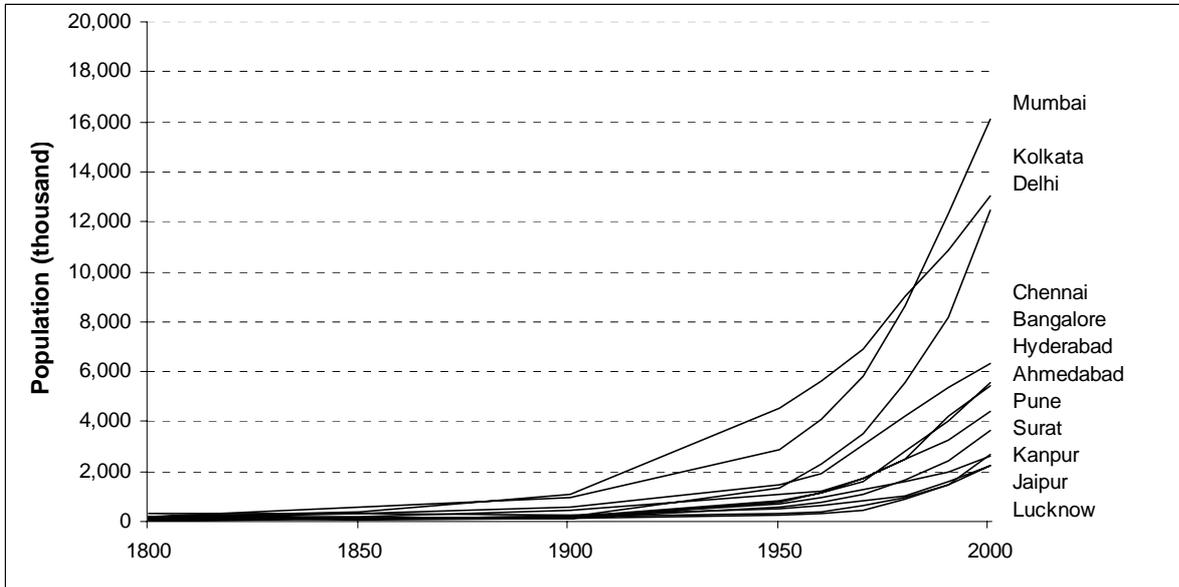
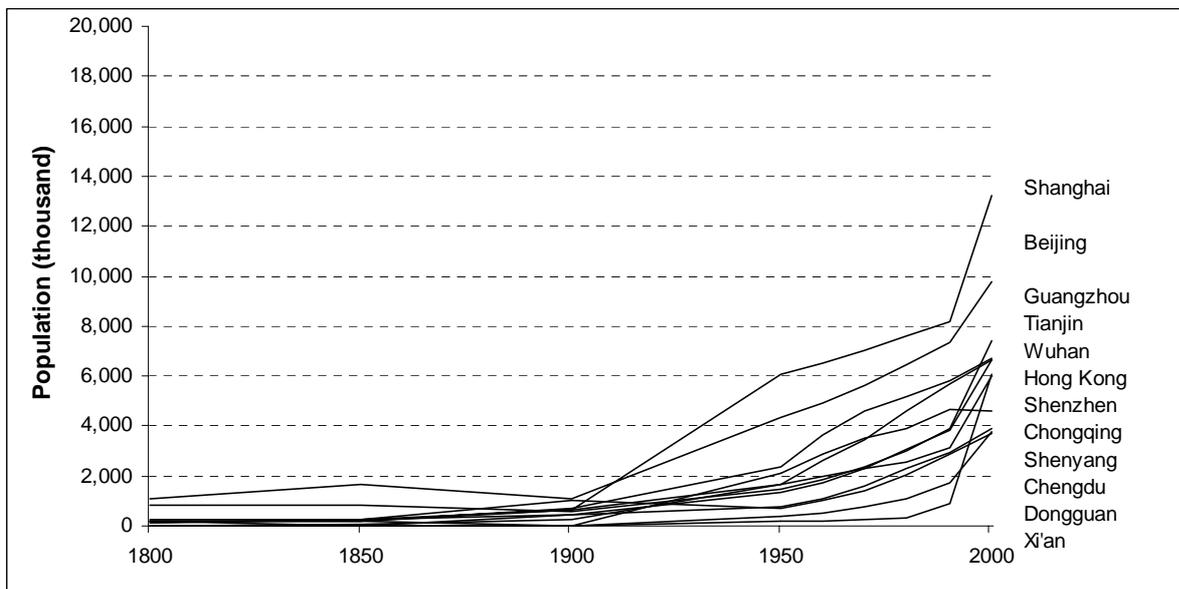


Figure 9 shows the differences in the periods when US cities’ growth rates greatly increased. For New York, Chicago, Philadelphia and Boston, all in the north-east, this was in the second half of the 19th century. In 1900, Atlanta, Houston and Dallas were all small urban centres, Los Angeles had only 100,000 inhabitants and Miami hardly existed. Los Angeles, Washington DC and Detroit grew to become major cities in the first half of the 20th century, while Miami, Dallas, Houston and Atlanta did so in the second half of the 20th century. As shown in Figure 10, Rio de Janeiro had close to a million inhabitants by 1900, when it was both the main port and the political capital. Sao Paulo began growing rapidly in the second half of the 19th century – but it became a major city in the first half of the 20th century whereas most other large Brazilian cities did so in the second half of the 20th century.

Figure 11: Population growth for India's largest cities in 2000 over two centuries**Figure 12:** Population growth for China's largest cities in 2000 over two centuries

In India, (Figure 11) Calcutta (now Kolkata) already had more than a million inhabitants in 1900, and Bombay (now Mumbai) had close to a million. Some caution is needed in making comparisons between Figure 12, for China, and Figures 4–11, given the particular ways in which urban populations are counted (and under-counted) in China. Beijing (formerly Peking) and Guangzhou (formerly Canton) were already large cities by 1800. The very rapid increase in the population of certain key cities from around 1980 is clear from Figure 12 – reflecting the political and economic changes that initiated very rapid economic growth and increasing production for world markets.

The world's most rapidly growing large cities

The speed with which a city's population grows is usually measured by its annual average population growth rate. But for city and national governments, the absolute change in population each year is also important.

Very large cities can have population increases of several hundred thousand persons a year, and still have relatively low annual growth rates. Table 4 shows the large differences between the world's 15 most rapidly growing large cities⁶⁰ between 1950 and 2000, using these two different criteria: average increment per year in population and annual average population growth rate.

Table 4: The world's 15 fastest-growing large cities, 1950–2000, according to two different criteria

The world's 15 fastest-growing large cities, 1950–2000, according to average increment per year in population							
URBAN CENTRE	COUNTRY	Population (thousand)				Compound growth rate, 1950–2000	Average increment per year, 1950–2000 (thousand)
		c.1800	c.1900	1950	2000		
Tokyo	Japan	492	1,497	11,275	34,450	2.3	464
Mexico City	Mexico	137	415	2,883	18,066	3.7	304
Sao Paulo	Brazil	<i>f</i>	240	2,334	17,099	4.1	295
Mumbai (Bombay)	India	174	928	2,857	16,086	3.4	265
Delhi	India	125	209	1,369	12,441	4.5	221
Dhaka	Bangladesh	110	90	417	10,159	6.6	195
Jakarta	Indonesia	92	115	1,452	11,065	4.2	192
Karachi	Pakistan	14	136	1,047	10,020	4.6	179
Seoul	Republic of Korea	190	201	1,021	9,917	4.7	178
Kolkata (Calcutta)	India	200	1,085	4,513	13,058	2.2	171
Manila	Philippines	85	204	1,544	9,950	3.8	168
Lagos	Nigeria	5	42	288	8,422	7.0	163
Al-Qahirah (Cairo)	Egypt	260	595	2,494	10,391	2.9	158
Rio de Janeiro	Brazil	43	967	2,950	10,803	2.6	157
Istanbul/Constantinople	Turkey	570	900	967	8,744	4.5	156
The world's 15 fastest-growing large cities, 1950–2000, according to population growth rates							
URBAN CENTRE	COUNTRY	Population (thousand)				Compound growth rate, 1950–2000	Average increment per year, 1950–2000 (thousand)
		c.1800	c.1900	1950	2000		
Karaj	Iran (Islamic Republic)	<i>f</i>	<i>f</i>	10	1,063	9.8	21
Brasilia	Brazil	<i>nf</i>	<i>nf</i>	36*	2,746	9.1	54
Monrovia	Liberia	<i>nf</i>	<i>f</i>	15	776	8.2	15
Abidjan	Cote D'Ivoire	<i>nf</i>	<i>f</i>	65	3,055	8.0	60
Dubayy (Dubai)	United Arab Emirates	<i>f</i>	10	20	938	8.0	18
Faridabad	India	<i>f</i>	<i>f</i>	22	1,018	8.0	20
Durg-Bhilainagar	India	<i>f</i>	<i>f</i>	20	905	7.9	18
Kaduna	Nigeria	<i>nf</i>	<i>nf</i>	28	1,220	7.8	24
Conakry	Guinea	<i>nf</i>	7	31	1,222	7.6	24
Las Vegas	United States of America	<i>nf</i>	<i>nf</i>	35	1,335	7.6	26
Yaoundé	Cameroon	<i>nf</i>	<i>f</i>	32	1,192	7.5	23
Shenzhen	China	<i>nf</i>	<i>nf</i>	174	6,069	7.4	118
Ulsan	Republic of Korea	<i>nf</i>	<i>nf</i>	29	1,011	7.4	20
Lusaka	Zambia	<i>nf</i>	<i>nf</i>	31	1,073	7.4	21
Kolwezi	Dem. Rep. of Congo	<i>nf</i>	<i>f</i>	31	1,047	7.3	34

⁶⁰ This considered only cities that, according to United Nations (2006), had 750,000 or more inhabitants by 2000.

NB: *f* signifies that the city had been founded by this year but no figures for its population were found; *nf* signifies not founded (although there is so little information on the history of many of these cities that some may be incorrectly designated; certainly some listed as *nf* in 1800 or 1900 may have had a settlement there).

* This is the population reported by United Nations 2006; other sources suggest there was no significant settlement there at that time.

SOURCE: For city populations for 1950 and 2000, United Nations (2006), op. cit. For city populations for 1800 and 1900, see sources listed at the end of Table 2. Note that only cities that had 750,000 or more inhabitants in 2000 were considered for this second list.

The world's largest cities never appear in lists of the world's most rapidly growing cities when their growth is measured by annual average population increases – although they inevitably did so when they were smaller. The larger a city's population at the beginning of any period for which population growth rates are being calculated, the larger the denominator used to divide the increment in the city's population to calculate the growth rate. Thus, it is not surprising that most of the cities with the highest population growth rates between 1950 and 2000 had relatively small populations in 1950. Shenzhen is the only city that had over 100,000 inhabitants in 1950 to make the list of the world's 15 fastest-growing cities (Table 4). Not all the most rapidly growing cities in these decades are in low- and middle-income nations: Las Vegas is the tenth fastest-growing large city in the world, 1950–2000, and three other US cities are on the list of the 100 fastest-growing large cities for this period (see Table 13). Dubai, the fifth fastest growing city in this 50 year period, is also within a high-income nation.

In any nation undergoing rapid urbanization, an analysis of inter-census population growth rates for all urban centres usually highlights some small urban centres with population growth rates of between 7 and 15 per cent a year. It is rare for any city with 1 million or more inhabitants to achieve population growth rates of 7 per cent a year between two censuses. Within the UN's dataset of city populations, 367 of the 380 "million-cities" in 2000 had population growth rates of less than 7 per cent a year during the 1990s and two-thirds of them had annual average growth rates of less than 3 per cent during the 1990s; 32 had declining populations during the 1990s.

However, if we consider the absolute number of people added to city populations each year, then many of the largest cities figure prominently as the most rapidly growing cities. For instance, Tokyo grew by more than 450,000 persons a year between 1950 and 2000 (see Table 4); another four cities grew by more than 200,000 a year. Among the 15 cities with the largest annual average increments in their populations between 1950 and 2000 listed in Table 4, four had annual average population growth rates of under 3 per cent (including Tokyo). For the 1990s, for the 11 cities whose populations grew on average by more than 200,000 inhabitants a year, five had annual average growth rates of less than 3 per cent (Mumbai, Mexico City, Sao Paulo, Istanbul and Kolkata). Mexico City, Calcutta and Sao Paulo actually had more people moving out than moving in during the 1990s, yet because of their very large size and rate of natural increase, they still had very large annual average increments in their populations. However, some caution is needed when comparing increments in population between cities, because boundary extensions or changing city or metropolitan government systems (which produce different boundaries) often include large populations that were not previously considered part of that city.

Of the 380 "million-cities" in 2000, 30 had populations that grew more than twenty-fold between 1950 and 2000. Not surprisingly, this included all the "million-cities" in Table 4 that had the fastest population growth rates: Abidjan, Conakry, Faridabad, Kaduna, Karaj, Kolwezi, Las Vegas, Lusaka, Shenzhen, Ulsan and Yaounde. This also included Dar es Salaam, Dhaka, Jeddah, Khartoum, Khulna, Kinshasa, Lagos, Nairobi, Niamey, Ouagadougou, Riyadh, Santa Cruz, Tijuana and Toluca. Brasilia, the federal capital of Brazil, did not exist in 1950 and by 2000, it had more than 2 million inhabitants. Three points to note from this list:

- 13 are national capitals or former national capitals (Dar es Salaam and Lagos⁶¹);
- most of the national capitals in this list are in sub-Saharan Africa; most of the non-national capitals are in Asia and Latin America and include cities that successfully competed with larger cities within their nation for new investment (for instance, Goiânia, Khulna, Santa Cruz, Shenzhen, Tijuana, Toluca and Ulsan). Some are cities whose rapid growth is likely to owe much to their location close to much larger cities – for instance Karaj and Tehran and Faridabad and Delhi (and perhaps it is no coincidence that these larger cities are both national capitals).

A further 47 of the “million-cities” in 2000 grew between ten and twenty-fold between 1950 and 2000. Of these, 15 were national capitals. Again, many of the non-national capitals were cities that had successfully attracted new investment in competition with the largest cities in their nation. They include six cities in Brazil (including Campinas, Curitiba, Grande Vitoria and Belo Horizonte), five in China and five in India (including Bhopal, Visakhapatnam and Surat). The group also includes three cities from the USA (Phoenix-Mesa, Orlando and Riverside-San Bernardino) that have also successfully attracted new investment in competition with larger cities.

One point worth giving a little more consideration to is the extent to which large city development does or does not coincide with national capitals. For instance, during the 20th century, to what extent was it decolonisation and the expansion of capital cities in newly independent nations that underpinned large city development? Table 5 gives the distribution between capitals and non-capitals by region for the world’s 100 largest cities in 1900, 1950 and 2000; also for the fastest growing large cities. Most of the fastest growing large cities were not national capitals – either for 1900 to 1950 or for 1950 to 2000. Unsurprisingly, there is a high concentration of the largest cities that are not capitals in the largest economies – in 1900, 1950 and 2000. Many of the world’s fastest-growing large cities are successful secondary cities that have helped produce economies and urban systems less dominated by national capitals and other very large cities in nations such as the USA, China, India, Brazil, Mexico and the Russian Federation while in South Korea they reduced the dominance of Seoul.⁶² In the six sets of figures in Table 5, Africa figures prominently in only one: the high concentration of the fastest growing large cities between 1950 and 2000. The large number of national capitals from Africa that are within this category is linked to decolonization and, in some nations, to the removal of apartheid-like controls on the rights of their people to live in cities. Both of these points are explored in more detail below. It is also linked to particularly high rates of natural increase.

For Asia, there is the increase in the number of capitals and non-capitals that are within the world’s 100 largest cities going from 1900 to 1950 to 2000; Asia also had a high proportion of the non-capitals that were among the fastest growing large cities, 1950 to 2000 and around two-thirds of these were in India and China. Asia had a lower proportion of the world’s largest cities that were not capitals in 1900 but nearly all of these were in China. The rest were in India and Japan. Thus, in 1900, outside of Japan, China and India, only capital cities in Asia were among the world’s 100 largest cities. By 2000, seven other Asian nations had non-capitals within the world’s largest 100 cities.

⁶¹ A large part of Lagos’ very rapid growth during the second half of the 20th century relates to its role as the federal capital of Nigeria, even though the national capital moved to Abuja. Dar es Salaam is officially no longer the capital of Tanzania (the capital shifted to Dodoma), but much of the apparatus of central government remains in Dar es Salaam.

⁶² LS Bourne, in discussing the emergence of large new cities in the USA, noted that this is usually seen as de-metropolitanization – but it may be that these new large cities continue to grow and so form a new generation of very large cities. See Bourne, LS (1995), *Urban Growth and Population Redistribution in North America: A Diverse and Unequal Landscape*, Major Report 32, Centre for Urban and Community Studies, University of Toronto, Toronto. This may also be the case in many of the largest economies in Asia and Latin America.

Table 5: The geographic distribution of the largest and fastest-growing large cities, 1900–2000

	Africa	Asia	Europe	Northern America	Latin America & Caribbean	Oceania
The 100 fastest-growing large cities, 1900-1950, that already had 20,000 inhabitants in 1900						
National capitals (30)	4	13	3	0	10	0
Non-national capitals (70)	4	33	10	14	7	2
The nations with the most non-national capitals included here are China (19), USA (13), Russian Federation (9), Colombia (3), India (3), Japan (3), Republic of Korea (3) and South Africa (3).						
The 100 largest cities in 1950 that had less than 20,000 inhabitants in 1900						
National capitals (5)	4	1				
Non-national capitals (95)	2	80	2	8	3	0
The nations with the most non-national capitals included here are China (65), USA (7), India (5), Indonesia (3). ⁶³						
The 100 fastest growing large cities, 1950-2000						
National capitals (29)	20	7	0	0	2	0
Non-national capitals (71)	13	38	0	3	17	0
The nations with the most non-national capitals included here are India (12), China (9), Brazil (8), Mexico (7), Nigeria (7), South Korea (4), Saudi Arabia (3) and USA (3).						
The world's 100 largest cities in 1900						
National capitals (31)	1	6	18	1	5	0
Non-national capitals (69)	1	16	35	15	0	2
The nations with the most non-national capitals among the world's 100 largest cities in 1900 are: USA (14), China (11), UK (11), Germany (7), France (5), Italy (4), India (3) and Poland (3).						
The world's 100 largest cities in 1950						
National capitals (35)	1	13	13	1	7	0
Non-national capitals (65)	2	29	13	18	1	2
The nations with the most non-national capitals among the world's 100 largest cities in 1950 are: USA (16), China (16), UK (6), India (5), Japan (4) and Italy (3).						
The world's 100 largest cities in 2000						
National capitals (35)	5	16	7	1	6	0
Non-national capitals (65)	3	33	3	14	10	2
The nations with the most non-national capitals among the world's 100 largest cities are: China (15), USA (12), India (7), Brazil (7), Australia (2), Canada (2), Japan (2), Mexico (2) and Pakistan (2).						

Note: The data for this table were drawn from the United Nations Population Division's database on the world's largest cities, and this includes only cities that had 750,000 or more inhabitants by 2005. Obviously, many of the cities with the fastest population growth rates in both periods were those that had very small populations at the beginning of the period. Data on the population in 1900 of many Chinese cities that by 2005 had 750,000+ inhabitants were not found;

⁶³ The high proportion of cities in this category from China may in part be due to the number of major Chinese cities for which data for their population in 1900 was not found.

some may have had substantial populations in 1900 to the point where this would have excluded them from the list of the world's 100 largest cities in 1950 that had less than 20,000 inhabitants in 1900.

The analysis of the geographic distribution of capitals and non-capitals is obviously complicated by the fact that, since 1900, some nations have changed their capitals and new nations (and thus new national capitals) have been created. Thus, Istanbul, Kolkata (formerly Calcutta) and St. Petersburg were classified as national capitals in 1900 but not in 1950 or 2000; Rio de Janeiro, Karachi and Hong Kong were classified as national capitals in 1900 and 1950 but not in 2000. Lagos was a national capital for 1950 but not for 1900 or for 2000. For the 100 fastest growing large cities, 1900 to 1950, Almaty, Hong Kong, Karachi and Lagos were classified as capitals. For the 100 fastest growing large cities, 1950-2000: Lagos and Dar es Salaam were classified as non-capitals, although both were national capitals for part of this period (and Dar es Salaam still retains many of the offices of national government). Abidjan is counted as a national capital, since it is the seat of government in Cote D'Ivoire, although Yamoussoukro is the capital.

The changes shown in Table 5 for Europe are perhaps the most dramatic. Europe had none of the world's 100 fastest growing large cities, 1950 to 2000. In 1900, Europe had more than half of the world's largest cities but by 2000, it had only ten. In 1900, more than a third of the world's 100 largest cities were European non-capitals. Most were the great centres of industry and the successful international ports in the UK, Germany, Italy and France including: Manchester, Birmingham, Glasgow and Liverpool; Hamburg, Dresden, Leipzig, Munich, Cologne and Frankfurt; Naples, Milan and Turin; and Lyon, Marseille, Lille and Roubaix. From among this list of cities, only Milan remained in the world's 100 largest cities in 2000. For the European capital cities within the 100 largest cities, many were in the nations with colonial empires. In 1900, where the large cities were reflected economic and political power. Interestingly, it is some of the capitals in Europe that manage to stay in the world's largest 100 cities rather than the non-capitals – London, Paris, Moscow, Madrid, Rome, Athens and Berlin. Perhaps in Europe, production decentralizes more easily than government – although some of the larger national capitals today owe a significant part of their economic success to roles within the global economy, especially London and Paris. The lack of rapidly growing large cities in Europe over the last few decades is in part due to relatively low rates of natural increase (and with many nations now having declining national populations), as well as more decentralized patterns of urban development. In addition, as noted earlier, there are several clusters of cities that if considered as single urban centres would rank among the world's largest and fastest growing large cities.

For Northern America, the high number of non-capitals that are among the world's largest 100 cities in 1900, 1950 and 2000 is not surprising, given the size of the USA's economy within the world economy for this whole period. For Latin America and the Caribbean, one interesting change is the rapid increase in the non-capitals that are within the world's 100 largest cities, comparing 1900 and 1950 to 2000. In 1900 and 1950, most of its largest cities were national capitals; by 2000, this is no longer the case.

There is also the perhaps surprising lack of change globally in the division between capitals and non-capitals for the world's 100 largest cities for 1900, 1950 and 2000 – although with major changes in this division in some regions, as well as changes between regions. It is likely that the number of non-capitals within the world's largest cities will increase, especially if China and India and other nations with large rural populations have economic success. But this in turn will be moderated by more decentralized patterns of urban development within successful economies.

One problem with considering which of the world's largest cities were the fastest growing for the period 1900 to 1950 is the number of cities that either did not exist in 1900 (so no population growth rate from 1900 to 1950 can be calculated) or for which no data were found on their population in 1900. In a conventional analysis of the fastest growing cities over any period, the cities that did not exist at the beginning of the period would be excluded. To address this, two sets of cities were looked at. The first is the fastest growing cities that now have 750,000 or more inhabitants and that had 20,000 or more inhabitants by 1900; the second was the largest cities in 1950 that had less than 20,000 inhabitants in 1900, including those that did not exist in 1900. Within the first set, 30 were national capitals and most were in Asia and Latin America.

Among the 70 non-capitals nearly half were in Asia (most in China), Northern America and Europe. A quick review of these cities suggest that most were regional capitals and/or centres of commerce and industry within the larger population nations with growing economies. Of the 13 in the United States, most were the successful new cities to the South and West – including three in California and three in Texas. All 10 of those that are in Europe were in what was for most of this period the Soviet Union – nine in today’s Russian Federation and one in the Ukraine. Most were key centres of oil, coal and/or industrial development. Most of the 19 Chinese cities in this category were centres of trade and administration, many with economies boosted by foreign trade and the arrival of the railway. Within the second set, the 100 largest cities in 1950 that had less than 20,000 in 1900, only 5 were national capitals and all but one of these were in sub-Saharan Africa (Harare, Dakar, Kinshasa and Accra), reflecting the lack of urban development under colonial rule. Of the 95 that were not national capitals, 80 were in Asia and 8 in North America. 65 were in China – but this may be more related to the lack of data on city populations in 1900 for less well-known Chinese cities. Of the 7 in the USA, again most were in the south and west.

Reviewing the fastest growing large cities, 1950-2000, it was only in Africa that capitals outnumbered non-capitals. Most of the non-capitals are in low- and middle-income nations with relatively large populations and successful economies (with South Korea being an example of a nation that moved into the high-income nation category during this period). By 2000, the nations with the most non-capitals among the world’s 100 largest cities are, not surprisingly, mostly the world’s largest economies – a point that will be considered in more detail later.

This perhaps overlong discussion of the geographic distribution of the world’s largest and fastest-growing cities 1900 to 2000 at least highlights the need to examine the relative roles of demographic, political and economic change in driving change within the world’s largest cities.

3. What drives urban change?

Introduction

Although urbanization is acknowledged as one of the most significant changes taking place within low- and middle-income nations, there is surprisingly little detailed study of what causes or influences its scale and nature within each nation. Urban population statistics can show which urban centres grow rapidly (or grow slowly, stop growing or shrink), but they tell us nothing about why.

Understanding what causes and influences urban change within any nation is complicated. Consideration has to be given to changes in the scale and nature of the nation’s economy and its connections with neighbouring nations and the wider world economy – and to decisions made by national governments, national and local investors and the 30,000 or so global corporations that control such a significant share of the world’s economy. Urban change within all nations is also influenced by the structure of government (especially the division of power and resources between different levels of government), the extent and spatial distribution of transport and communications investments and the spatial influences of macro-economic policies. These in turn influence the spatial distribution of new investment and the locations where employment expands or contracts. The size and rate of change of the population in each of the 50,000 or so urban centres in the world⁶⁴ are influenced not only by such international and national factors but also by local factors related to

⁶⁴ This figure of 50,000 urban centres in the world is a very rough estimate, based on an extrapolation from many censuses reviewed that gave the total number of urban centres in individual countries. For instance, Colombia in its 1993 census had more than 1,000 urban centres; India more than 5,000 in its 2001 census; and Brazil more than 8,000 in its 1990 census. Of course, the number of urban centres in any nation depends not only on the level of urbanization and the spatial distribution of the urban population but also on the official definition of an urban centre. India would have tens of thousands of urban centres if it changed its urban definition to be “settlements of 2,500 or more inhabitants”. The figure of 50,000 urban centres is given only to stress the very large number of urban centres worldwide, each of which has its own unique pattern of growth (or decline).

each very particular local context – including the site, location, natural resource endowment, demographic structure, existing economy and infrastructure (the legacy of past decisions and investments) and the quality and capacity of public institutions.

Analyses of urban change within any nation over time serve as reminders of the diversity of this change, the rising and falling importance of different urban centres, the spatial influence of changes in governments' economic policies (for instance, from supporting import substitution to supporting export promotion), the growing complexity of multi-nuclear urban systems in and around many major cities – and the complex and ever-shifting patterns of migration from rural to urban, urban to urban and urban to rural areas. International immigration or emigration has strong impacts on the population size of particular cities in most nations. But it is not only changing patterns of prosperity or economic decline that explain these vast flows of people. Many cities have been affected by war, civil conflict or disaster, and by people fleeing them. Urban change is also influenced by the large demographic changes apparent in all nations over the last 50 years, including rapid population growth rates in much of Latin America, Asia and Africa after the Second World War (although for most these have declined significantly), and changes in the size and composition of households and in age structures.⁶⁵

Analyses of urban change within most low- and middle-income nations also show the diversity in urbanization levels and urban trends within different sub-regional units (such as provinces or states). For example, in Colombia in 1993, the urbanization level of *departamentos* varied from under 25 per cent for two *departamentos* to more than 80 per cent for several *departamentos* and more than 90 per cent for two others.⁶⁶ In Pakistan, in 1998, the level of urbanization varied from 48.9 per cent in Sindh to 16.9 per cent in North West Frontier Province (if we discount the 80.5 per cent in Islamabad, which is inevitably predominantly urban because this is a special region for the national capital – see Table 6). Analyses of inter-regional or inter-city differences in urban change show that it is not unusual for particular regions to “de-urbanize”, or for particular urban centres to lose population; the extent of this de-urbanization in parts of Ghana was sufficient between 1970 and 1984 for some settlements that were defined as urban in the 1970 census to be reclassified as rural settlements in 1984.⁶⁷ Some Colombian *departamentos* were less urbanized in 1993 than they had been in 1985.⁶⁸

Table 6: Contrasts in urban indicators between different regions in Pakistan

Region	Percentage of total population, 1998	Percentage of population in urban areas, 1998	Number of urban localities with 100,000+ inhabitants, 1998	Percentage of Pakistan's urban population, 1951	Percentage of Pakistan's urban population, 1998
Pakistan	100	32.5	54	100	100
NWFP	13.4	16.9	3	8.4	6.9
FATA	2.4	n.a.			
Punjab	55.6	31.3	36	59.8	52.7
Sindh	23.0	48.9	13	29.4	34.1
Balochistan	5.0	23.3	1	2.4	3.5
Islamabad	0.6	80.5	1	–	1.2

SOURCE: Hasan, Arif (2006), *The Scale and Causes of Urban Change in Pakistan*, Ushba Publishing International, Karachi, 170 pages.

⁶⁵ See Montgomery, Stren, Cohen and Reed, 2003, op. cit.

⁶⁶ Dávila, Julio (2002), *Urban Change in Colombia*, Urban Change Working Paper 3, IIED, London.

⁶⁷ Songsore, Jacob (2002), *Towards a Better Understanding of Urban Change in Ghana*, Urban Change Working Paper 2, IIED, London.

⁶⁸ Dávila, 2002, op. cit.

The economic drivers of urbanization

But what are the main causes underlying the fact that virtually all nations in the world have “urbanized” in most or all of the last 50 years – from the poorest to the richest nations?⁶⁹ Why did the proportion of the world’s population living in urban areas grow from a minority (15 per cent) in 1900 to 50 per cent by around 2008, with projections suggesting an increasingly urbanized population in the future? The immediate cause is the net movement of people from rural to urban areas. The main underlying cause is the concentration of new investment and economic opportunities in particular urban areas. A nation’s urban system (the network of urban centres and their interconnections) is best understood as the “geography” of its non-agricultural economy and government system. It is also in effect a map of where profit-seeking enterprises have concentrated and of where people working outside agriculture make a living.⁷⁰

In low- and middle-income nations, rural-to-urban migration is overwhelmingly the result of people moving in response to better economic opportunities in the urban areas, or to the lack of prospects in their home farms or villages. The scale and direction of people’s movements accord well with changes in the spatial location of economic opportunities. In general, it is cities, small towns or rural areas with expanding economies that attract most migration.⁷¹ Although it is often assumed that most migration is from rural to urban areas, in many nations rural-to-rural migration is on a larger scale than rural-to-urban migration, and most nations also have significant urban-to-rural migration flows.

That much of the migration in low- and middle-income nations over the last 50–60 years has been from rural to urban areas is hardly surprising in that most of the growth in economic activities in all regions of the world over the last 50–100 years has been in urban centres. Today, around 97 per cent of the world’s GDP is generated by industry and services and around 65 per cent of the world’s economically active population works in industry and services – and a very high proportion of all industry and services are in urban areas.⁷² For low- and middle-income nations, around 90 per cent of GDP is from industry and services – and around half the labour force works in industry and services (Figure 13).

⁶⁹ There are exceptions, but not many; in addition, where there appears to be some “de-urbanization” in high-income nations, this is generally more the movement of industry and service enterprises to rural areas or the movement of people who work in industry and services to rural areas.

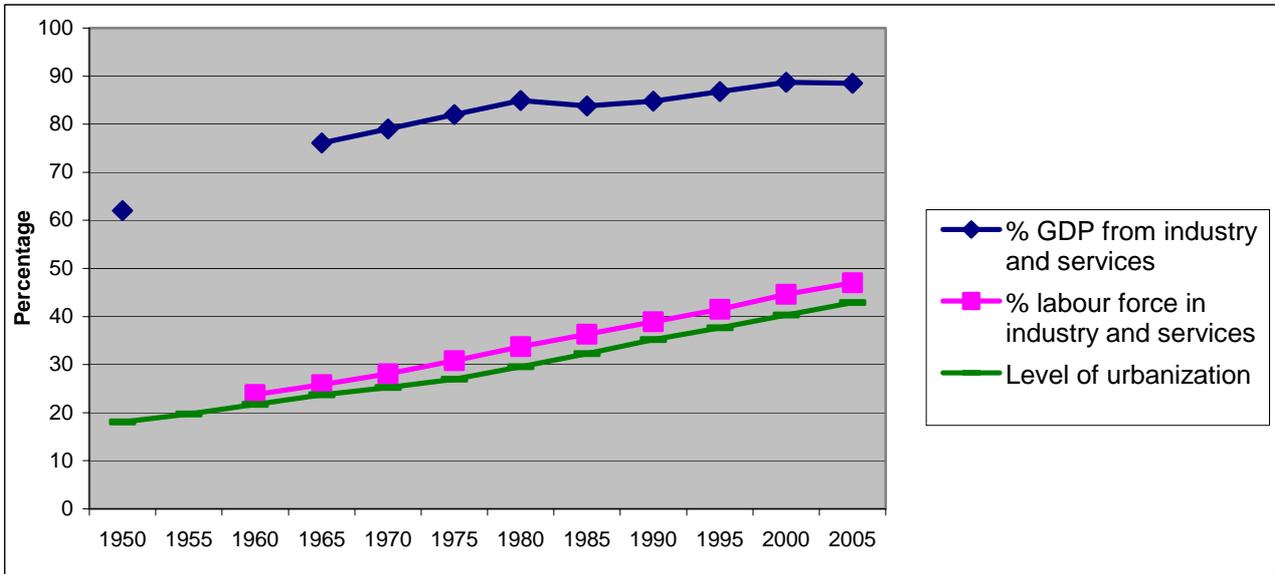
⁷⁰ There are exceptions – for instance, urban growth in places where retired people chose to live, or in tourist resorts; but even here, their growth is largely because of the growth in enterprises there to meet the demand for goods and services generated by the retired people and/or tourists. Advanced telecommunications systems and the internet also allow some spatial disconnect between people employed in urban-based enterprises or institutions who do not actually work in these enterprises (including working from homes that are not in urban areas), and although these may have growing importance, they are not yet significant in low- and middle-income nations. As they become significant, they are in effect another example of how rural areas can have “urban” patterns of employment.

⁷¹ There are important exceptions, such as migration flows away from wars/conflicts and disasters.

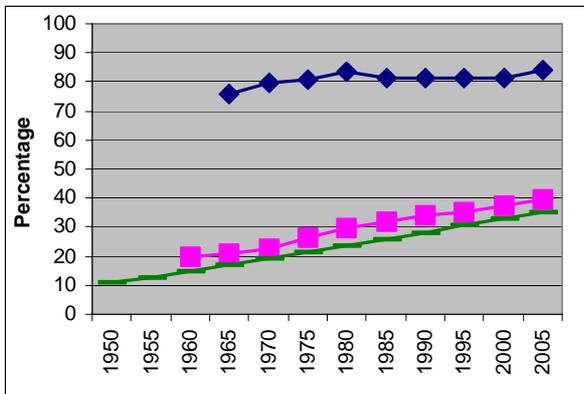
⁷² In some low-income nations, rural industry may be important for livelihoods for large numbers of people, although this might be largely due to inappropriate classifications or urban definitions with much of this actually being in small urban centres; in high-income nations, many industries and service enterprises may also be in “rural” areas but this is largely due to those rural areas enjoying levels of infrastructure and services usually associated with urban areas.

Figure 13: Changes in the proportion of GDP from industry and services, of the labour force working in industry and services and of the population in urban areas, 1950–2005

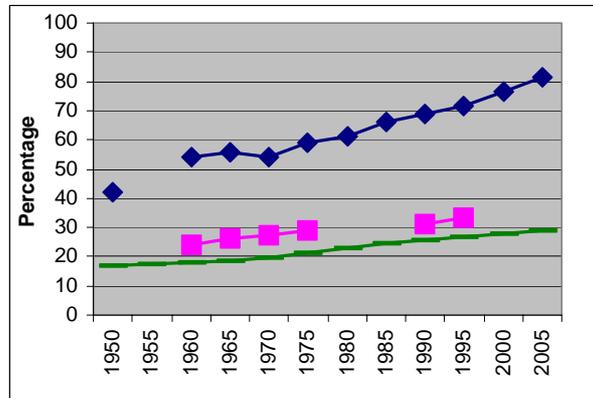
a) All low- and middle-income nations



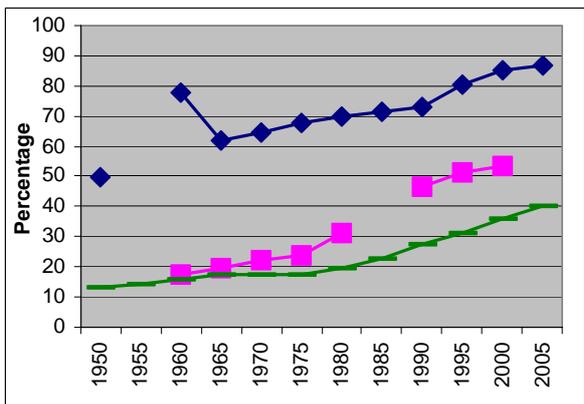
b) Sub-Saharan Africa



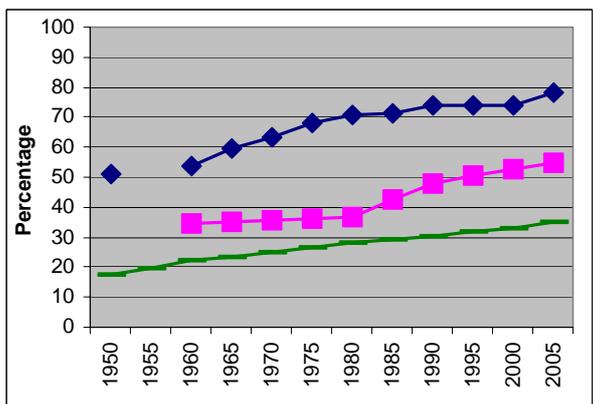
c) India



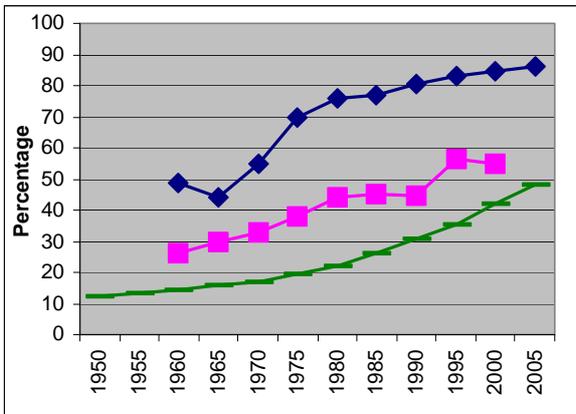
d) China



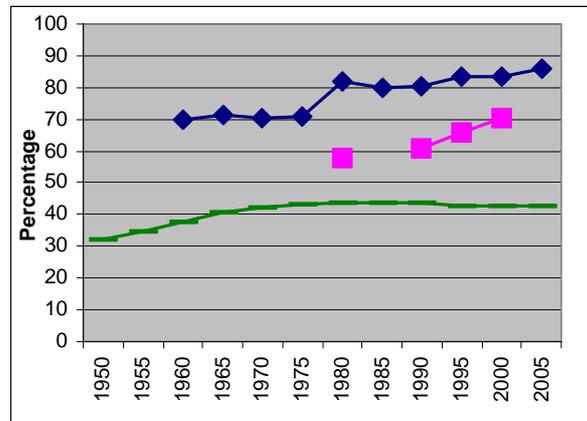
e) Pakistan



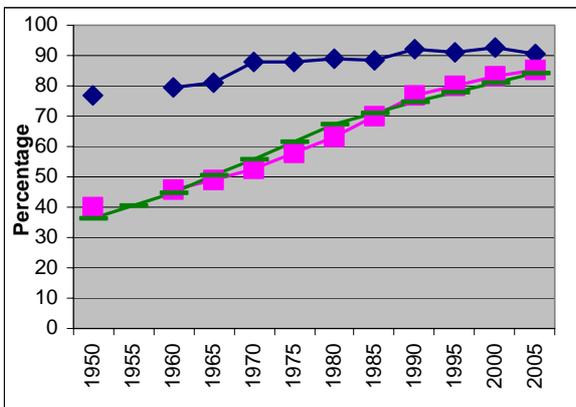
f) Indonesia



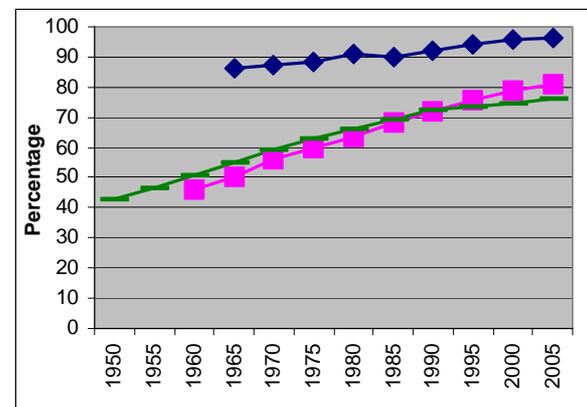
g) Egypt



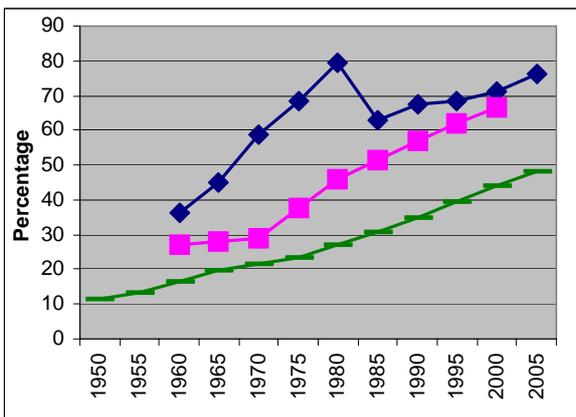
h) Brazil



i) Mexico



j) Nigeria



SOURCES: Percentage GDP in industry and services from World Bank, *World Development Indicators Online*, The World Bank, Washington DC; percentage of workforce in industry and services from *World Development Indicators Online*, op. cit., FAO (2006), *FAOSTAT Online Statistical Service*, FAO, Rome and World Resource Institute, *Earthtrends* (http://earthtrends.wri.org/searchable_db); level of urbanization from United Nations (2006), *World Urbanization Prospects: the 2005 Revision*, United Nations Population Division, Department of Economic and Social Affairs, CD-ROM Edition – Data in digital form (POP/DB/WUP/Rev.2005), United Nations, New York. Some historic data for percentage GDP in industry and services for India and China from Gordon, Jim and Poonam Gupta (2003), *Understanding India's Services Revolution*, Paper prepared for the IMF-NCAER Conference, A Tale of Two Giants: India's and China's Experience with Reform, November 14-16, New Delhi, 34 pages.

The graphs in Figure 13 show how changes in urbanization levels reflect changes in the proportion of GDP generated by industry and services and the proportion of the workforce in industry and services. This is not surprising; it is to be expected that these three indicators would track each other over time. What is perhaps surprising is how consistently they do so. The pattern in sub-Saharan Africa (Figure 13b) does not differ much from the pattern for all low- and middle-income nations combined (Figure 13a). Much has been made of the “milestone” of half the world’s population living in urban areas – but there are actually two other important milestones that underpin this. It seems that it was in around 1980 when more than half of the world’s economically active population worked in industry and services for the first time – rather than in primary activities (agriculture, forestry, mining & fishing), and in around 1940 when more than half the world’s GDP was first generated in industry and services.

Whether one reviews changes in the distribution of the labour force between agriculture, industry or services, or changes in the distribution of GDP between these sectors, in virtually all low- and middle-income nations, there have been very large increases in the relative importance of industry and services (most of which are located in urban areas) and very large decreases in the relative importance of agriculture (most of which is located in rural areas⁷³). By 2001, agriculture generated less than one-quarter of the value-added within the GDP of low-income nations; for middle-income nations, it generated only 10 per cent.⁷⁴ In virtually all nations for which there are data, most of the growth in GDP from 1990 to 2003 is explained by the growth in industry and services.⁷⁵ This is consistent with the idea that economic change is the primary driver of urbanization. The main exceptions are likely to be from the political drivers of urbanization associated with the achievement of political independence and the building of government structures which were important for most of Asia and Africa but which are likely to have had much less effect in most nations from the 1980s onwards. These and other examples of non-economic drivers of urbanization will be discussed in more detail in other sections below.

Some of the charts in Figure 13 show some particular nation-specific characteristics – for instance in China (Figure 13d), the drop in the proportion of GDP coming from industry and services between 1960 and 1965 perhaps reflects the economic and political turmoil of the 1960s. The growth in the urbanization level between 1950 and 1960 reflected the priority given to accelerated industrial growth and the lack of increase in the urbanization level for much of the 1960s and 1970s reflected the controls on rural dwellers’ movement to urban areas and the forced movement of millions of urban dwellers to rural areas.⁷⁶ The rapid increase in the level of urbanization in China from 1980 onwards coincides with the nation’s rapid, sustained economic growth. It is tempting to speculate on economic and political reasons for other changes – for instance the political turmoil in Indonesia in 1965 perhaps being part of the reason for the simultaneous drop in proportion of GDP generated by industry and services (Figure 13f) – but it would need a much more detailed knowledge of changes in Indonesia and confidence in the reliability of the statistics before such links could be established.

One interesting difference between nations is that, in some, the proportion of the labour force in industry and services is similar to the proportion of the population living in urban areas – for instance in Brazil, Mexico, India and sub-Saharan Africa (Figures 13h, c and b). For China (Figure 13d), this was so until the mid-1970s when the gap between the two measures grew rapidly. This gap may reflect under-counts in urban populations. The text above noted why China’s official statistics may under-count China’s urban

⁷³ In many nations, a significant proportion of the total value of agricultural production is within urban areas, but this is largely due to city boundaries encompassing areas of agricultural land around the city, so the produce grown there is counted as urban. More details of this will be given below, especially for Bangladesh and China.

⁷⁴ World Bank (2002), *Sustainable Development in a Dynamic World; Transforming Institutions, Growth and Quality of Life; World Development Report 2003*, World Bank and Oxford University Press, New York, 250 pages.

⁷⁵ Kessides, Christine (2006), *Urban Transition in Sub-Saharan Africa: Implications for Economic Growth and Poverty Reduction*, Cities Alliance, 84 pages (see especially Table SA2, pages 70–71, drawing from Global Development Finance (GDF) & World Development Indicators (WDI) Central (April 2005), SIMA Database.

⁷⁶ Kirkby, Richard (1985), *Urbanization in China: Town and Country in a Developing Economy 1949–2000 AD*, Croom Helm, London.

population. The gap in Pakistan (Figure 13e) may also be because of the under-count of urban populations in official statistics, as discussed above, drawing on Arif Hasan's analysis of urban change in recent inter-census periods.⁷⁷ The gap is particularly large in Egypt (Figure 13g), as the proportion of the workforce in industry and services grew rapidly from 1990 to 2000 while the level of urbanization declined – but the text above noted the very considerable under-estimation of the urban population in Egypt's official statistics. If Egypt counted its “agricultural towns” with 10,000–20,000 inhabitants as “urban” rather than “rural”, Egypt's level of urbanization would have continued rising rather than levelling off – and the proportion of the workforce in industry and services would have corresponded much more closely to the proportion of the population living in urban areas.

In Mexico and Brazil (Figures 13i and 13h), the proportion of the population living in urban areas is much closer to the proportion of the workforce in industry and services. This may be explained by urban definitions that include “small urban centres” that are excluded by the definitions used in (for instance) Pakistan, China and Egypt. The text above discussed the limited validity of international comparisons of nations' urbanization levels, because of the different criteria used for defining urban centres. Many nations have 10–20 per cent of their entire population in settlements that would be defined in one nation as urban and in another as rural.

Virtually all the nations that have urbanized most over the last 50–60 years have had long periods of rapid economic expansion – and, as indicated above, large shifts in employment patterns from agricultural/pastoral activities to industrial, service and information activities. Agriculture is often considered as separate from (or even in opposition to) urban development, yet prosperous high-value agriculture, combined with prosperous rural populations, has proved an important underpinning to rapid development in many cities. Many major cities first developed as markets and service centres for farmers and rural households, and later developed into important centres of industry and/or services.⁷⁸ Many such cities still have significant sections of their economy and employment structure related to forward and backward linkages with agriculture.⁷⁹ And, of course, all urban populations and enterprises depend directly or indirectly on rural produce and rural ecological services, even if this dependence is not reflected in conventional economic measures.

Public services

Urban centres also concentrate public-service provision. Most secondary schools and higher education institutions are located in urban areas; so too are most hospitals and higher-order medical services (although not necessarily primary health care centres). Over the last 50 years, there has also been a large growth in the scale and range of public services and bureaucracies in low- and middle-income nations, and these are overwhelmingly concentrated in urban areas and are part of the reason for increased urbanization – not only related to education and health care but also to local government, the police, the armed forces, postal services and telecommunications and the judicial system.⁸⁰ Although this may be judged to be “urban bias”, there is nothing inherently “biased” about this in that these urban-based secondary schools, hospitals and many government services are mostly in small market towns and administrative centres, and serve both rural and urban populations.

⁷⁷ Hasan, 2006, op. cit.

⁷⁸ Hardoy, Jorge E and David Satterthwaite (1989), *Squatter Citizen: Life in the Urban Third World*, Earthscan Publications, London, UK, 388 pages. See also Garza, 2002, op. cit.; Afsar, 2002, op. cit., and Satterthwaite, David and Cecilia Tacoli (2003), *The Urban Part of Rural Development: The Role of Small and Intermediate Urban Centres in Rural and Regional Development and Poverty Reduction*, Rural–Urban Working Paper 9, IIED, London, 64 pages.

⁷⁹ See Satterthwaite and Tacoli, 2003, op. cit.; also Benjamin, Solomon (2000), “Governance, economic settings and poverty in Bangalore”, *Environment and Urbanization*, Vol. 12, No. 1, April, pages 35–56.

⁸⁰ In many nations in the last 15 years, there have been significant cuts in public bureaucracies and public expenditures on salaries for public employees, often associated with structural adjustment, and this is one important factor in slowing the increases in urbanization or, on occasion, halting or reversing it.

The most cost-effective way of providing both rural and urban populations with access to education is to have primary schools (and, where possible, pre-school services) in most villages and urban neighbourhoods, secondary schools in urban areas, and universities or other higher education institutes in district or state capitals. Similarly, the most cost-effective way of providing both rural and urban populations with access to health care is to have primary health care centres in most villages and urban neighbourhoods within a hierarchy of health centres where the more specialized services are in district capitals and larger cities, and these act as the referral centres to which are sent the cases that the primary health care centre or the small district hospital cannot manage. In many nations, especially those without large urban economies, the list of urban centres and their relative sizes usually corresponds quite closely to the hierarchy of local government capitals, from the national capital to the state or provincial capitals to district capitals to sub-district capitals. This is also the case for many relatively little urbanized regions within nations.⁸¹

Associations between economic change and urbanization levels

Within any nation, differences in the scale of urban change among sub-national regions usually reflect corresponding large differences in economic change. Sub-national regions' urbanization levels are likely to reflect the large variations in the size of their industrial and service production (including their success or lack of it in concentrating enterprises that are part of the increasingly globalized world economy). But detailed studies of the economic underpinnings of these variations in urbanization levels within nations are rare.

It is possible to consider the extent of the association between urbanization levels and economic change for nations. For instance, as Figure 14 shows, there is an obvious association between levels of urbanization and average per capita incomes, as nations with high per capita incomes are among the most urbanized, and most nations with low per capita incomes are among the least urbanized. Figure 14 also shows that there are considerable variations in urbanization levels between nations with comparable per capita incomes. But a large part of these variations is likely to be the result of different criteria used by national governments in defining their urban population, as already noted in Box 3. For instance, in Figure 14, India, Pakistan, China, Egypt, Thailand and Mauritius have low urbanization levels relative to their per capita incomes but, as Box 3 describes, these nations have urban populations that are defined in ways that probably understate their urbanization levels.

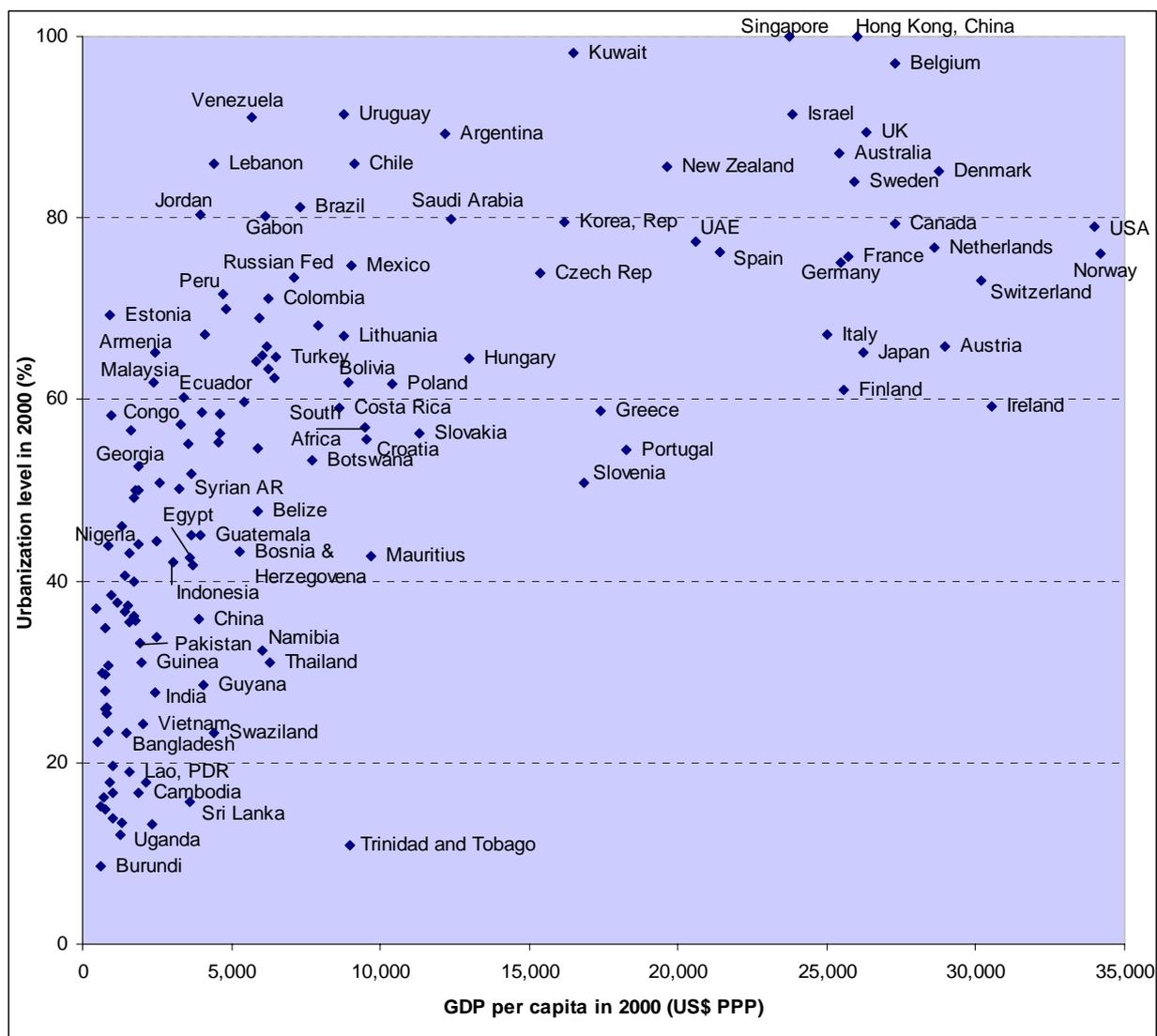
Sri Lanka appears very little urbanized relative to its per capita income (with only 15.7 per cent of its population in urban areas in 2000) but this is certainly in part due to the government definition of "urban" considerably understating the nation's actual urban population. One report has suggested that, by 2005, 48 per cent of Sri Lanka's population was living in urban areas, if a more appropriate urban definition is used.⁸² Is South Africa shown as relatively little urbanized in 2000 for its level of per capita income partly because of the legacy of the apartheid era? Trinidad and Tobago appears to be very little urbanized relative to its per capita income, but this is probably because the urban definition significantly under-counts its urban population.⁸³

⁸¹ Hardoy, Jorge E and David Satterthwaite (editors) (1986), *Small and Intermediate Urban Centres: their role in National and Regional Development in the Third World*, Hodder and Stoughton (UK) and Westview (USA). See in particular Chapter 3 by BS Bhooshan, Chapter 4 by HN Misra and Chapters 7 and 8 by the editors.

⁸² Indrasiri, LH (2006), *Urbanization and Urban Redefinition – Sri Lanka 2005*, Urban Development Authority, available from <http://www.uda.lk/reports/Urbanization%20and%20Urban%20Redefinition%202005.pdf>; see also <http://www.statistics.gov.lk/census2001/index.html>.

⁸³ United Nations, 2006, op. cit. reports that the nation's urban definition is the population in Port-of-Spain (capital), Arima borough and San Fernando town. A government minister reported in 1999 that almost 70 per cent of the population lived in urban centres (statement by the Honourable Mr Manohar Ramsaran, Minister of Social and Community Development, Trinidad and Tobago, to the Twenty first Session of the General Assembly on the Five Year Review and Appraisal of the Implementation of the Programme of Action of the International Conference on Population and Development (ICPD + 5) Thursday, July 1, 1999, New York, accessed at <http://www.un.org/popin/unpopcom/32ndsess/gass/state/trinidad.pdf>

Figure 14: The association between nations' level of urbanization and their average per capita income, 2000/2001



Notes for Figure 14: Country names were added for outliers, large population nations and places where space allowed. Care is needed in interpreting this figure because of the different criteria used by governments to define urban areas – see Box 3. Sources: UN, 2006, op. cit. for urbanization levels; World Bank, World Development Indicators on-line <https://publications.worldbank.org/subscriptions/WDI/>

There is also a group of nations with high levels of urbanization relative to their per capita income – for instance Nigeria, Angola, Congo, Armenia, Jordan, Lebanon and Venezuela. Again, is this in part explained by official urban definitions or, for some of these, a lack of recent census data (and urbanization levels derived from projections being overstated) or because of particular economic characteristics or political circumstances? For instance, has political instability in Lebanon made it more urban than it would have been otherwise, or might its level of urbanization be over-stated (there are no recent census data for Lebanon)? Why do many Latin American nations have high urbanization levels in relation to their per capita incomes – as shown for example for Bolivia, Peru, Venezuela, Uruguay, Argentina, Brazil and Chile in Figure 14? It is intriguing to see Uruguay, Argentina and Chile clustered

so close and with relatively high levels of urbanization in relation to per capita income; might this be in part related to their relatively early economic success and/or the difficulties that immigrants who moved there in the late 19th and early 20th centuries had in acquiring land for agriculture?⁸⁴ It would be interesting to redo Figure 14, based, say, on the proportion of the population in each nation in urban centres with 10,000 or more inhabitants, but this would have a more restricted set of nations because such data are not available in many nations and there would be a need to seek data for years for which as many nations as possible had censuses.

The United Nations Population Division publishes figures for levels of urbanization from 1950 to the present (and projected into the future) for all nations. Large variations between nations in the extent of the change in urbanization levels over the last few decades, and the speed at which it took place, would be expected to reflect differences in the scale and nature of their economic growth. This was borne out in an analysis covering the period from the 1950s to the 1980s, which showed that, in general, the nations whose economies had grown the most also had the largest increases in levels of urbanization, and the nations with poor economic performance had the smallest increases.⁸⁵ Box 3 above noted a World Bank source that suggested that sub-Saharan Africa had continued to urbanize during the 1990s without economic growth – but also noted that this source did not draw on any census data for 2000 and so relied entirely on estimates and projections for changes in urbanization levels during the 1990s. Many nations in sub-Saharan Africa may appear to have “urbanized rapidly” during the 1990s, but only because estimates and projections for their urban populations in 2000 (in the absence of census data) were made, based on the assumption that they would continue to urbanize at rates similar to those of previous decades.

Urban change shaped by local factors

There is perhaps too much general discussion on urbanization of low- and middle-income nations drawing on convenient databases with statistics for almost all nations on economic growth and level of urbanization – with little recognition of the limitations of the data and little knowledge of the nations themselves. The text above certainly identified some regularities in economic change and urban change between nations but it is also important to consider the differences – or the differences in their underpinnings. All low- and middle-income nations have undergone very large economic, social, demographic and political changes over the last 50–100 years, and these are inevitably reflected in the changes in their urban systems. It is also important that the scale and nature of their influence on urban change in each nation is given more attention. This will be illustrated here with examples from four nations: Pakistan, Mexico, South Africa and Ghana.

In Pakistan,⁸⁶ the current size and spatial distribution of the urban population has been greatly influenced by: India’s Partition in the late 1940s (which created Pakistan and which also caused very large migration flows to particular locations, especially to Karachi); Pakistan’s division (as what was formerly East Pakistan became Bangladesh); the civil war in Afghanistan; the Green Revolution (and the locations where it was concentrated); and Pakistan’s political structure. Immigration from India as a result of Partition increased Pakistan’s population by 1.8 million, and most of these immigrants moved to urban areas in Sindh and Punjab provinces (especially Karachi and Hyderabad). Many urban centres in Pakistan experienced population declines during this period – as Hindus and Sikhs fled to India – and this explains the drop in the urbanization level in North West Frontier Province, and the decline in population in many towns and cities there between 1941 and 1951. During the Afghan civil war, 3.7 million Afghans came to Pakistan; although most were in refugee camps in peri-urban areas of North West Frontier Province and Balochistan, some 600,000 settled in Karachi. The population growth rates of both Quetta and Peshawar were also boosted by Afghans during the 1970s, but much less so during

⁸⁴ See Hardoy and Satterthwaite, 1989, op. cit. for a more detailed discussion of this.

⁸⁵ This analysis was undertaken by Diana Mitlin at IIED; it looked only at nations for which there were census data for their levels of urbanization. A summary was published in UNCHS, 1996, op. cit.

⁸⁶ This paragraph is drawn from Hasan, 2006, op. cit.

the 1980s. Inevitably, these huge population movements brought many political conflicts – including those between long-term city dwellers and immigrants from India, between Pakistanis and Afghans, and between urban and rural interests.

Urban change in Mexico⁸⁷ (and the spatial distribution of its major cities) can be understood only in terms of the very large economic changes that the nation has undergone. The influence of different economic phases can be seen within the current urban system:

- the agro-exporting period up to 1940 (with the rapid growth of urban centres that were key market and service centres for agriculture – and many of the nation’s largest cities first grew to prominence from this);
- the import-substitution period from 1940 to 1970 (with Mexico City expanding rapidly because most new industry located here);
- the period from 1970 to 1990, with the slowing of economic growth and then a period of economic decline, with a shift in economic policy from import-substitution industry to export-oriented industry (with the deceleration of Mexico City’s growth and the rapid urban growth concentrated in the cities close to the US border that were the centres for export-processing zones);
- the 1990s, when the rapid growth of the northern cities continued, but their rapid economic growth did not stimulate much development further south because their main functional linkages were with cities in the USA – there was also the rapid growth of some ports (reflecting the new economic emphasis on exports) and of certain successful tourist centres.

The growth rate of all the largest cities in Mexico has declined; in 2000, Mexico City proved to have half the population that had been anticipated 20 years previously. But if the boundaries of Mexico City are extended to include the wider metropolitan region, the population is substantially higher. Emigration to the United States is also an important influence on slower urban growth rates in recent decades; much of this is rural-to-urban migration, but across the Mexican–US border, as Mexican rural dwellers move to urban areas in the United States. (This is also a reminder of the importance of international migration flows in shaping urban trends in Mexico, as also in many other nations). Further, an understanding of urban change in Mexico needs consideration of changes within each city. To give one example of how particular circumstances can change a city’s prospects, rapid population growth in Tijuana in the 1930s was, in part, a response to visitors from the USA seeking entertainment and drink (during the period when alcohol was prohibited in the USA). Tijuana must have lost business when prohibition ceased, although in the longer term it managed to keep and greatly enhance its role as a tourist centre for US citizens.

Urban change in South Africa⁸⁸ over the last few decades can be understood only in relation to the racial discrimination that was formally embedded in the structure of government and the law against most of its population until the first majority government in 1994. This discrimination included strict controls on the black majority’s right to live in or move to urban centres, which limited the scale of urban growth. However, as the South African economy industrialized, urbanization was not prevented (the industries needed a cheap workforce) but largely displaced to settlements within 60 kilometres of the large cities in the “bantustans” or “homelands” to where much of the African population was moved. The current urban system was also shaped by the development of gold and diamond mines from the late 19th century. Now, it is influenced by immigration flows from neighbouring nations and the decline in the white population since 1991 (although this may be overstated because of an under-count in the 1996 census). The very large increases in the urban population in the 1996 census are in part related to an administrative change – following the exclusion from South Africa’s urban population of the African population living in urban areas in the so-called independent states in the censuses of 1980 and 1991.

⁸⁷ These two paragraphs on Mexico are drawn from Garza, 2002, *op. cit.*

⁸⁸ This paragraph is drawn from Crankshaw and Parnell, 2002, *op. cit.*

Urban change in Ghana is best analyzed within at least six periods⁸⁹:

- the pre-colonial phase prior to links with Europe, when the main urban centres were inland and linked to capitals or administrative centres and the main trade patterns (mostly linking Ghana to western Sudan);
- the pre-colonial phase, when the focus of trade centres switched to the coast and became more oriented to trade with Europe;
- the colonial period, when the urban system was much influenced by the hierarchy of administrative centres and by the centres that served the exploitation and export of cocoa, timber and mineral production;
- the early post-colonial phase, with the expansion of import-substitution industry, and successful cocoa production;
- the period of economic crisis and structural adjustment, which slowed rural-to-urban migration; and
- the most recent period, with some recovery of economic growth and the development of tourism.

The pre-colonial urban history might be considered irrelevant to understanding modern urban change, yet there is a surprising continuity in Ghana (and in many other nations) regarding cities which first came to prominence many centuries ago and that have managed to retain their prominence despite very large economic and political changes.⁹⁰ In addition, good locations for ports were important for pre-colonial trade with European powers and post-colonial economic change, whether for import-substitution or for export promotion.

In many nations, one important local influence on urban populations is the large and often growing level of mortality from AIDS. This is particularly apparent in certain sub-Saharan African nations with high levels of HIV infection, especially among urban populations. For instance, studies in recent years show urban HIV prevalence of 17–18 per cent in Kenya,⁹¹ 16 per cent in Cote d'Ivoire and 27 per cent in Rwanda. Among urban 15–49-year-olds in 2002, HIV prevalence was more than 15 per cent in South Africa and more than 20 per cent in Zambia. Most of those infected do not have access to the anti-retroviral drugs that can dramatically lower the health consequences and death rates from AIDS. A high proportion of those with HIV/AIDS also have the health impact much increased by poor health and nutrition – while poor health among uninfected populations and a lack of access to good health care also increases their vulnerability to infection.⁹² More than half the deaths of young women in sub-Saharan Africa are attributed to HIV.⁹³ Obviously, current and future trends in changes in urban populations (and populations of specific cities) will be influenced by the prevalence rates for HIV/AIDS and by the quality of the health-service responses for those who are infected.

Cities and the global economy

The internationalization of world production and trade (including the very rapid expansion in the value of international trade) has been an important underpinning for the rapid growth of many cities and has influenced urban trends in most nations. Many cities owe their prosperity to their roles within this increasingly internationalized system of production and distribution. International, national and local

⁸⁹ Songsore, 2002, op. cit.

⁹⁰ Section 2 noted how most of the largest cities today in low- and middle-income nations have been important cities for at least 200 years; many have much longer urban histories than this.

⁹¹ Zulu, EM, N Dadoo and AC Ezeh (2004), “Urbanization, poverty, and sex: roots of risky sexual behaviors in slum settlements in Nairobi, Kenya” in Kalipeni, E, S Craddock, JR Oppong and J Ghosh (editors), *HIV & AIDS in Africa: Beyond Epidemiology*, Blackwell Publishing, Malden, pages 167–174.

⁹² van Donk, Mirjam (2006), “‘Positive’ urban futures in sub-Saharan Africa: HIV/AIDS and the need for ABC (a broader conceptualization)”, *Environment and Urbanization*, Vol. 18, No. 1, pages 155–176.

⁹³ van Donk, 2006, op. cit.; Mabala, Richard (2006), “From HIV prevention to HIV protection; Addressing the vulnerability of girls and young women in urban areas”, *Environment and Urbanization*, Vol. 18, No. 2, pages 407–432.

tourism have also proved important underpinnings of urban development in many cities and smaller urban centres.

There is an economic logic underlying the distribution of the world's urban population, including its largest cities. This can be illustrated by the concentration of the world's "million-cities" (Figure 15) and "mega-cities" in its largest economies (Table 7). In 2000, the world's five largest economies (USA, China, Japan, India and Germany) had 8 of the world's 17 "mega-cities" and 44 per cent of its "million-cities". All but 3 of the world's 17 "mega-cities", and more than two-thirds of its million-cities, were in the 20 largest economies in 2000. Similarly, within each of the world's regions, most of the largest cities are concentrated in their largest economies – for instance, Brazil, Mexico and Argentina in Latin America, and China, Japan, India, Indonesia and the Republic of Korea in Asia. In terms of regional distribution, by 2000, Asia had just over half the world's "million-cities." The "least developed nations", with 11 per cent of the world's population in 2000, had only 6 per cent of its "million-cities".

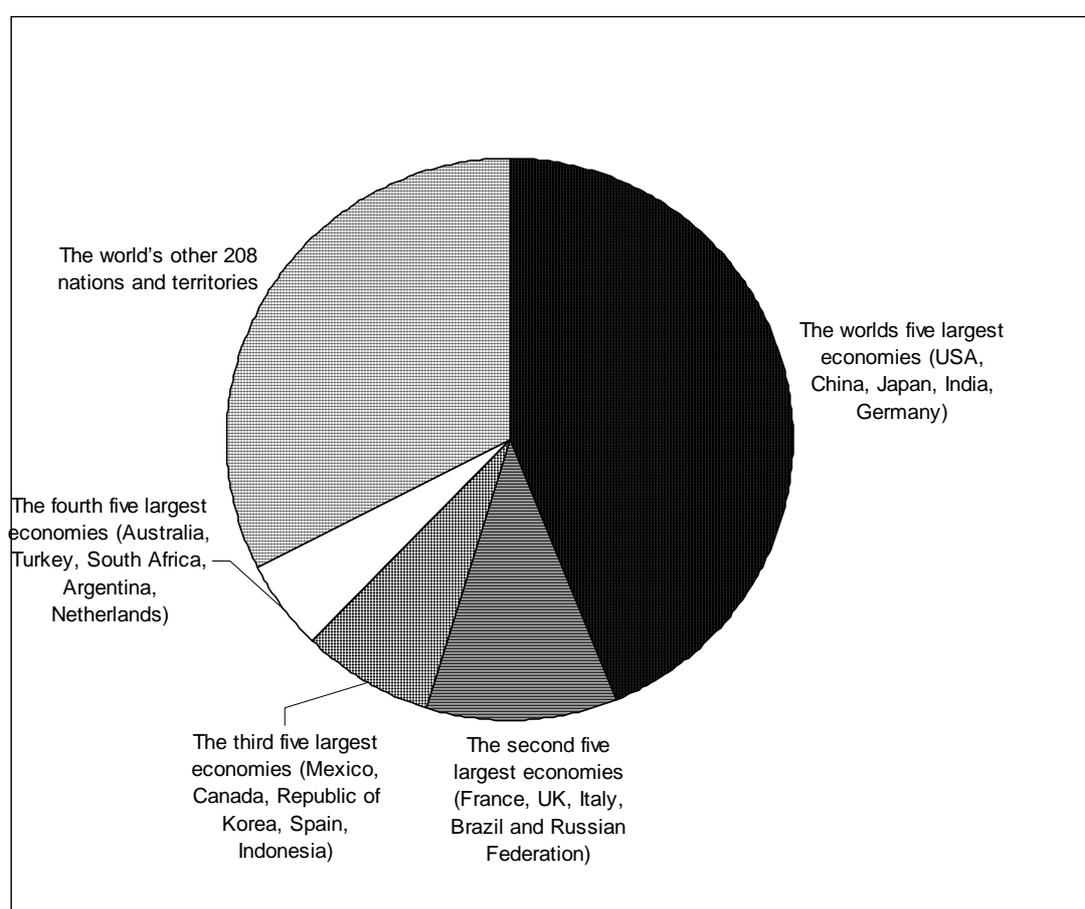
Table 7: The distribution of the world's largest cities among the world's largest economies and between nations classified by their per capita incomes in 2000

Nations	Number of million cities (1 million or more inhabitants)	Number of cities with 5–9.99 million inhabitants	Number of mega-cities (10 million or more inhabitants)
The world's five largest economies			
USA	37	2	2
China	87	7	1
Japan	8	0	2
India	32	3	3
Germany	3	0	0
The next five largest economies (France, UK, Italy, Brazil, Russian Federation)	41	3	3
The next five largest economies (Mexico, Canada, Republic of Korea, Spain, Indonesia)	28	2	2
The next five largest economies (Australia, Turkey, South Africa, Argentina, Netherlands)	20	1	1
The world's other 208 nations and territories	124	10	3
TOTAL (world)	380	28	17
The distribution of large cities between nations classified by their average per capita incomes			
Low-income nations	78	6	5
Middle-income nations	204	15	8
High-income nations	98	7	4
"Least developed" nations	23	1	1
The distribution of large cities between regions			
Africa	37	2	1
Asia	192	17	9
China	86	7	1
India	32	3	3
Europe	53	4	1
Latin America and the Caribbean	51	3	4
Northern America	41	2	2
Oceania	6	0	0

SOURCES: This is an updated and expanded version of a table in Satterthwaite (1996), op. cit. For population statistics, United Nations (2006), op. cit. For the size of nations' economies, World Bank (2001), *Building Institutions for Markets; World Development Report 2002*, Oxford University Press, Oxford, 249 pages.

There is a comparable association between the world's largest economies and the cities that are projected to join the "million-cities" group by 2010. The United Nations Population Division estimates that there will be 96 new "million-cities" between 2000 and 2010 (i.e. cities whose population comes to exceed 1 million inhabitants between 2000 and 2010). Of these 96, there are 24 in China, 16 in India, 6 in the USA and another 6 in Brazil. Overall, two-thirds of these are in the 20 largest economies in 2000/2001.

Figure 15: The distribution of the world's 380 "million-cities" among the world's largest economies in 2000



There is an obvious association between the world's largest cities and globalization. Growing cross-border flows of raw materials, goods, information, income and capital, much of it managed by transnational corporations, have underpinned a network of what can be termed "global cities" that are the key sites for the management and servicing of the global economy.⁹⁴ Most international investment is concentrated in a relatively small proportion of the world's cities. It is no coincidence that Tokyo, New York and London, the three most important global financial centres,⁹⁵ are also among the world's largest

⁹⁴ Sassen, Saskia (2002), "Locating cities on global circuits", *Environment and Urbanization*, Vol. 14, No. 1, April, pages 13–30.

⁹⁵ Sassen, Saskia (1994), *Cities in a World Economy*, Pine Forge Press, Thousand Oaks, London, New Delhi, 157 pages.

cities, and this helps to explain reports of renewed population growth in London during the 1990s, after several decades of population decline. Many of the world's fastest-growing cities are also the cities that have had most success in attracting international investment. Large international migration flows, and consequent remittance flows, are also associated with globalization and have profound impacts on many cities – in areas of both origin and destination. Around 175 million people (more than 2 percent of the world's population) live in a country in which they were not born.⁹⁶

However, the association between globalization and large cities is moderated by two factors. The first is that advanced telecommunications systems and corporate structures allow a separation of the production process from those who manage and finance it. The economies of London and New York may depend heavily on growing markets for industrial goods, but they have very little industrial production themselves. The second factor, linked to the first, is the more decentralized pattern of urban development that is possible within regions with well-developed transport and communications infrastructure. Many of the most successful regions have urban forms that are less dominated by a large central city, and have new enterprises developing in a network of smaller cities and greenfield sites – as in Silicon Valley and Orange County in California, and Bavaria in Germany,⁹⁷ or among the dynamic network of cities in south-east Brazil that has attracted much new investment away from Sao Paulo and Rio de Janeiro. In all high-income nations and many middle- and low-income nations, there has been a growing capacity among cities outside the very large metropolitan areas to attract a significant proportion of new investment. In the nations that have had effective decentralization (where local governments' capacities and accountability to citizens were increased), urban authorities in smaller cities have more resources and capacity to compete for new investment.⁹⁸

Trade liberalization and a greater emphasis on exports have also increased the comparative advantage of many smaller cities. Meanwhile, advances in inter-regional transport and communications have reduced the advantages for businesses of locating in the largest cities. However, there are also large cities whose population growth rates remained high during the 1980s and 1990s – for instance, Dhaka (Bangladesh) and many cities in India and China – and strong economic performance by such cities seems the most important factor in explaining this. China has many examples of cities with very rapid population growth rates, which is hardly surprising given the very rapid economic growth rates sustained there over the last 25 years. For instance, the city of Shenzhen close to Hong Kong has grown from a small border town to a major metropolis with over 6 million inhabitants during these same 25 years. But China also has many cities that have grown slowly in recent decades and, again, any analysis of urban change in China needs to be disaggregated, because of the major differences in urban trends in different regions.

The list of the world's largest cities includes many that articulate large national economies into the global system (such as Paris, Madrid and Sao Paulo) or sub-national (regional) economies (such as Chicago).⁹⁹ However, some cities with key roles within the global economy are not so large – for instance, Zurich and Singapore – and several of the world's largest cities do not owe their size and economic base to their role within global production or management but to being national capitals in more populous nations, with a high concentration of political power there – for instance, Delhi and Cairo and, before the Nigerian capital was shifted to Abuja, Lagos.

⁹⁶ Boswell, Christina and Jeff Crisp (2004), *Poverty, International Migration and Asylum*, Policy Brief No. 8, WIDER-UNU, Helsinki, 35 pages.

⁹⁷ Castells, Manuel and Peter Hall (1994), *Technopoles of the World: The Making of 21st Century Industrial Complexes*, Routledge, London and New York, 275 pages.

⁹⁸ Although most nations have had some form of decentralization over the last 10–15 years, the extent to which this helps to underpin more decentralized patterns of urban growth depends on the extent of this decentralization, including the extent to which resources and capacity to raise revenues and invest in infrastructure have been decentralized from national or provincial/state authorities to urban authorities.

⁹⁹ Friedmann, John (1993), "Where we stand: a decade of world city research", paper prepared for the Conference of World Cities in a World System, Center for Innovative Technology, April, 37 pages.

One reason why the world was less urbanized in 2000 than was expected is the slow economic growth (or economic decline) that many low- and middle-income nations experienced for much of the period from 1980. This also helps explain slower population growth rates for many cities in Africa and Latin America. This is partly related to structural adjustment policies, which brought declines in employment, falling real incomes and declining urban welfare, and which proved to be less successful than had been hoped in stimulating economic growth.¹⁰⁰

Urban myths and data limitations

It is tempting to compare urbanization trends across the world's nations over time and to try to explain them with reference to economic data – or, as discussed in the next sub-section, political structures. This temptation is all the greater when it is so easy to get and use the datasets showing each nation's level of urbanization and each major city's population for every five years from 1950 to 2000 (with projections to 2015). Almost everyone who writes about or comments on urban issues in Africa, Asia and Latin America draws directly or indirectly on the urban and rural population statistics produced by the United Nations Population Division – usually from the *World Urbanization Prospects* reports that they have published every two-three years since 1975.¹⁰¹ Each successive report incorporates new census data that have become available since the previous report. Most of these reports (and all those published in the last 15 years) contain details of each nation's urban definition and of the (often limited number of) censuses used for the figures for each nation and for each city. These should serve as a caution to those who use the statistics, but they are often ignored. All these United Nations reports also give cautions to the reader in regard to comparing population figures between nations – for instance comparing urban populations or levels of urbanization because of different official criteria for defining urban centres or comparing city populations or population growth rates because of different criteria used for setting city boundaries.¹⁰²

But the desire for generalizations and cross-national comparisons and the easy availability of the dataset often overwhelms such 'dull cautions' (see Box 3) and produces many myths (see Box 4). One major source of errors in both academic and non-academic literature on urban trends is that the authors do not use the most recent UN reports. For instance, it is still common to see reference to how rapidly sub-Saharan Africa urbanized during the 1990s or how rapidly cities in this region are growing, but using UN Population Division Reports published before any census data were available to show the actual population growth rates for the 1990s. And almost never do authors using the United Nations dataset take note of the careful recording in these reports of the very limited range of censuses from which its figures draw from many nations. Thus, many of the comments about current or recent trends in 'very rapid population growth' for particular cities or 'very rapid increases in urbanization levels' are not based on census data. Box 3 noted how even the latest *World Urbanization Prospects* published in 2006 does not have census data after the early 1990s for many sub-Saharan African nations and some Asian and Latin American nations. So even in 2007, we do not know the scale and nature of urban change for large parts of sub-Saharan Africa and for some other nations since 1990.

It is rare to find international analyses of urban change and economic change that recognize the limitations in the urban data (especially the lack of censuses) and in the comparability of many urban statistics (between nations and cities, within each nation and city over time) – and that also draw on the kinds of detailed national analyses that discuss the underlying economic, political, social and demographic changes (as illustrated by the examples above from Pakistan, Mexico, South Africa and

¹⁰⁰ For sub-Saharan Africa, see Potts, 2006, op. cit.

¹⁰¹ There was also United Nations (1969), *Growth of the World's Urban and Rural Population, 1920-2000*, Department of Economic and Social Affairs, Population Studies No. 44, United Nations, New York, 77 pages.

¹⁰² See for instance in the 1975 report the section headed "A note for caution" which warns of the differences in the way that city boundaries are set; also the 1969 report's discussion of the different criteria used to define 'urban' and 'rural' populations.

Ghana).¹⁰³ Such national studies discourage international comparisons because they show the diversity evident across any national territory and across different inter-census periods. For many nations, it is impossible to produce such a national review for the period since 1950 because there are too few censuses available to do so.¹⁰⁴

Box 4: Common myths about urban development

More than half the world's population lives in cities. For at least ten years, it has been common to see it stated that half the world's population is now living in cities. Much of the press coverage for the 2007 UN *State of the World Population* reported that "half the world will soon be in cities",¹⁰⁵ even as the text of this report was careful to state that this was for urban centres or for towns and cities. The urban statistics produced by the UN Population Division (on which virtually all other international agencies rely) are also careful to state that half the world's population is in urban areas, not cities. A report on mega-cities published in 2006 states that "At some point in 2007, humanity will reach a significant demographic milestone: for the first time in history more people will live in cities than the countryside, according to predictions by the United Nations. By 2030, over 60% of people will live in cities. The growth rate is particularly rapid in many of the so-called mega cities, cities with more than 10 million inhabitants."¹⁰⁶ This confuses cities with urban centres in two instances and misses the fact that many mega-cities actually have very slow population growth rates.

The terms "city" and "urban centre" are often used interchangeably – but they are not the same. The proportion of people living in cities is considerably lower than the proportion living in urban centres, as a significant proportion of the urban population lives in urban centres that are too small to be termed cities. There are thousands of settlements in Europe, North and South America, Asia and Africa that are classified by their national governments as urban, but which lack the economic, administrative or political status that would normally be considered as criteria for classification as a city. Since there is no accepted definition for what constitutes "a city", there are no statistics for the proportion of the world's population living in cities. But if we arbitrarily choose to classify urban centres that have 50,000 or more inhabitants as cities, then, for many nations, the proportion of their population living in cities would be at least 10 per cent below the proportion living in urban centres.¹⁰⁷ Thus, the proportion of the world's population living in cities is significantly less than the proportion living in urban centres. This distinction between "urban centre" and "city" has importance as a reminder that a significant part of the urban population, and in most nations of the growth in urban population, is occurring in a great range of relatively small urban centres and these often have among the worst provision of infrastructure and services.

"Africa is the fastest urbanising continent in the world – around twice as fast as Latin America and Asia. In 25 years half the entire population will live in cities. Africa is well on the way to European levels of urbanisation – but without the economic base to sustain it."¹⁰⁸ This quote from the 2005 Commission for Africa report is one among many possible examples of claims that Africa is urbanizing far more rapidly than anywhere else; this report, like many others, also claims that Africa has urbanized at rates that are historically unprecedented. In these two sentences, there are three major errors and one very dubious prediction. If Africa is the fastest-urbanizing continent in the world, and around twice as fast as Latin America and Asia, this implies that the rate of increase in Africa's level of urbanization is twice that of Asia and Latin America. This is not the case: according to the most

¹⁰³ See, also the section on Northern America by Larry Bourne, and the chapter on Europe by Tony Champion in UNCHS, 1996, op. cit.; see also, for Africa, Bryceson, Deborah Fahy and Deborah Potts (editors) (2006), *African Urban Economies: Viability, Vitality or Vitiating?*, Palgrave Macmillan, Basingstoke, 416 pages.

¹⁰⁴ Our understanding of urbanization in Europe over the last 250 years is driven by a relatively weak and incomplete set of statistics on urbanization levels and on city populations, but it is underpinned by a rich information base on social, economic, political and demographic history. By contrast, today, we have what appears to be a complete set of statistics for all nations and territories for their level of urbanization and for the population of capitals and large cities from 1950 to the present – but these are so often interpreted with no knowledge of the social, economic and political underpinnings of urban change. The world's largest cities or its fastest- or slowest-growing large cities, or the nations with the most rapid urbanization can be listed, independent of any knowledge of these cities or nations or of the limitations in the data about them.

¹⁰⁵ UNFPA (2007), *UNFPA State of the World Population 2007: Unleashing the Potential of Urban Growth*, E/31,000/2007, sales no. E.07.III.H.1, United Nations Population Fund, New York.

¹⁰⁶ Siemens (2006), *Megacity Challenges: A Stakeholder Perspective*, A research project conducted by GlobeScan and MRC McLean Hazel, Siemens AG, Corporate Communications (CC), Munich, page 2.

¹⁰⁷ See Satterthwaite, David (2006), *Outside the Large Cities; the Demographic Importance of Small Urban Centres and Large Villages in Africa, Asia and Latin America*, Human Settlements Discussion Paper; Urban Change-3, IIED, London, 30 pages.

¹⁰⁸ Commission for Africa (2005), *Our Common Interest: Report of the Commission for Africa*, Commission for Africa, London, page 50.

recent UN dataset for the last decade for which census data are available (the 1990s), Asia's rate of increase in its level of urbanization was similar to that of Africa. Latin America had a much lower rate of increase – but this is hardly surprising as Latin America already had more than three-quarters of its population in urban areas. As more new census data become available, it is likely that these will show that Africa urbanized less during the 1990s than is indicated in the latest UN population datasets.

Perhaps the Commission for Africa report meant that Africa's urban population growth rate, not the rate of increase in the level of urbanization, was twice that of Latin America and Asia – but this is also not the case.¹⁰⁹ Africa is certainly not “well on the way to European levels of urbanization”: in 2000 (the last year for which there is census data available for most nations), 36 per cent of Africa's population lived in urban areas compared to 72 per cent for Europe. In 25 years, half of Africa's people are very unlikely to be living in cities, although they may live in urban centres (see the discussion above on the difference between cities and urban centres). In regard to whether Africa has urbanized at rates that are historically unprecedented, this is unlikely for two reasons. First, for trends over several decades, available data do not show this – for instance the increases in the levels of urbanization in Asia and in Africa are pretty similar, between 1950 and 2000 (see Table 1). Perhaps certain African nations urbanized at rates that were unprecedented for particular decades. However, as discussed below, if this was the case, it was largely because they were under-urbanized due to the colonial political controls on urban growth and on the rights of Africans to live and work in urban areas; very rapid increases in urbanization levels resulted when these controls were weakened or removed.

In addition, to claim that these rates were “unprecedented” would require some investigation of other nations that had periods of very rapid urbanization – for instance China from around 1980, many Latin American nations during periods of rapid industrialization and economic success (some of which predated 1950), or Japan for the decade or two after it industrialized so rapidly. By the late 1990s, urban population growth rates for sub-Saharan Africa were under 4 per cent a year – and other regions in Asia and Latin America had long periods where urban population growth rates exceeded 4 per cent a year. During the 1970s, it was common to see comments that Latin America was the region with unprecedented rates of urbanization; perhaps now we are moving to an era where Asia will be the region most commonly said to have unprecedented rates of urbanization.¹¹⁰

Urban growth in Africa, Asia and Latin America is explosive, unprecedented and out of control. For over 30 years, it has been common to see statements about the “explosive growth” of cities or the “urban explosion” in Africa, Asia and Latin America, often with comments that it is “out of control”. A paper published in the journal *Foreign Affairs* in 1996 was entitled “The exploding cities of the developing world” and included the comment that “Lured by the bright lights, or driven from the countryside by political and economic turmoil, population pressures, and ecological breakdown, billions of people have been migrating to the cities.”¹¹¹ An article in *Newsweek* in 1994 talked about Asian mega-cities running riot, driven by explosive economic and population growth.¹¹² It is also often assumed that not only is rapid urbanization taking place all over Africa, Asia and Latin America but that it will continue. For instance “Unrestrained rural-to-urban migration has caused rapid urban growth in all countries in the developing world and is expected to continue.”¹¹³ Here, the issue of whether urban growth is unprecedented will be discussed; the ways in which rapid urban change is usually closely linked to economic change and thus not “out of control” has been discussed above.

Of course, “billions of people” have not been migrating to cities. The urban population in low- and middle-income nations has grown by around 2 billion since 1960 so the city population would have grown by less than this. Migration is likely to have accounted for less than half this growth as natural increase and reclassification account for more than half.¹¹⁴

It is not possible to generalize for low- and middle-income nations in regard to the rate at which levels of urbanization changed for the period 1950 to 2000 or for 1980 to 2000 since there is such diversity. There are low- and middle-income nations that are among the most rapid urbanizers and the slowest urbanizers for both periods. Many low-income nations, including some in Africa, had less absolute increase in their urbanization levels in both these periods than the United States and Switzerland – although the rate of increase in their level of urbanization was generally much higher, largely because they began from such a low base. Even with aggregate figures, the increase in levels of urbanization for Africa (or sub-Saharan Africa) are not unprecedented; Africa's level of urbanization increased from 15 to 36 per cent between 1950 and 2000, while the corresponding increase for sub-

¹⁰⁹ See United Nations, 2006, op. cit.

¹¹⁰ The Deputy Director General of the Asian Development Bank recently stated that “The rate of urbanization that Asia is experiencing is a phenomenon that is unprecedented in human history”: <http://www.adb.org/media/Articles/2007/11618-asian-urban-crisis-solutions/>.

¹¹¹ Linden, Eugene (1996), “The exploding cities of the developing world”, *Foreign Affairs*, Vol. 75, No. 1, January/February, pages 52–65.

¹¹² *Newsweek*, 9 May 1994, page 37.

¹¹³ Linares, Carlos A (1994), *Urban Environmental Challenges*, WRI Issues in Development, World Resources Institute, Washington DC, page 1.

¹¹⁴ See United Nations, 2006 and Montgomery, Stren, Cohen and Reed, 2003, op. cit,

Saharan Africa was from 11 to 33 per cent, for Europe from 51 to 72 per cent – and East Europe from 39 to 68 per cent.

There are also many historical precedents of nations with larger increases in their levels of urbanization over short periods than most of those taking place in recent decades in low- and middle-income nations. For instance, the level of urbanization in Japan increased from 24 per cent in 1930 to 64 per cent in 1960; that in the UK went from 37 to 61 per cent between 1850 and 1880.¹¹⁵ The urbanization level in the USA went from 28 per cent in 1880 to 51 per cent in 1920.¹¹⁶ In South Korea, now a high-income nation, the level of urbanization went from 12 to 43 per cent from 1940 to 1970;¹¹⁷ if we consider Taiwan (Republic of China) independently, its level of urbanization went from 24 to 66 per cent between 1950 and 1980.¹¹⁸

The change in the level of urbanization in low- and middle-income nations between 1950 and 1975 was comparable to that in Europe and North America between 1875 and 1900.¹¹⁹ The rates of net rural-to-urban migration required to achieve these increases may have been greater in Europe and North America in the late 19th century than in low- and middle-income nations from 1950 to 1975 because the rates of natural increase in rural areas were probably higher than those in urban areas at that time.¹²⁰

In addition, some of the most rapid increases in levels of urbanization in recent decades have not been in Africa, Asia and Latin America but in Europe. Very few countries in Africa, Asia and Latin America have had increases in their levels of urbanization that compare with that in Lithuania between 1959 and 1989 (from 39 to 68 per cent), Belarus (from 31 to 66 per cent, in the same period)¹²¹ or Finland between 1950 and 1980 (from 32 to 60 per cent).¹²² Although sub-Saharan Africa is generally considered to be a region experiencing rapid urbanization, several African nations have among the smallest increases in their levels of urbanization between 1980 and 2000 (including Zambia and Egypt, which are reported to have de-urbanized, and Mauritius, Niger, Eritrea, Central African Republic, Kenya, Burundi, Uganda and Chad). However, as noted above, some caution is needed in making generalizations for sub-Saharan Africa because no recent census data are available for many nations; also for some of these nations, their small increase in level of urbanization (and for Egypt, de-urbanization) may be the result of urban definitions excluding smaller urban centres, many of which have rapidly growing populations.

By one particular indicator of the rate of urban change, the annual average rate of change in levels of urbanization, for the period 1950 to 2000, sub-Saharan Africa has a higher rate of change than all other regions. Drawing on the UN Population Division's dataset, for all nations over the period 1950 to 2000, most of the nations with the most rapid rate of change are in sub-Saharan Africa. It may be that for certain decades, some sub-Saharan African nations had rates that were "unprecedented" – although the data for countries' levels of urbanization prior to 1950 is too limited to know whether this is so. Perhaps the USA in the late 19th and early 20th centuries, or certain Latin American nations during the periods when they industrialized very rapidly, had comparable rates. But this indicator can be misleading in a way similar to that discussed above for cities' annual average rate of population growth. Relatively small numbers of rural dwellers moving to urban areas when a nation has a very low level of urbanization can produce a very rapid growth in the level of urbanization – whereas for a nation that is already relatively urbanized, a much larger number of rural dwellers moving to urban areas can produce a relatively low rate of growth in the level of urbanization. Most of the sub-Saharan African nations with the most rapid rate of change in their level of urbanization for the period 1950 to 2000 had less than 5 per cent of their population in urban areas in 1950 – and included some with less than 2 per cent. So if they had "unprecedented" rates of change for this indicator, it may be because they were "under-urbanized" because of the colonial policies mentioned above.

One advantage of comparing changes in levels of urbanization for nations is that each percentage change can represent the same number of people moving from rural to urban areas. Thus, if there were two nations, each with 10 million inhabitants, and one went from 1 to 10 per cent urban while the other went from 51 to 60 per cent urban, the actual increase in the number of people living in urban areas would be the same for both nations. However, if we consider the rate of increase in the level of urbanization, assuming this change happened over a decade, in the first of these examples the rate of increase is more than fifteen times that of the second. This can be illustrated by considering the case of Tanzania. This nation is chosen in part because it has had more censuses than most nations in sub-Saharan Africa and so the UN Population Division figures in the table and graphs below come

¹¹⁵ Bairoch, 1988, *op. cit.* The UN Population Division figures give a much lower figure for Japan's urbanization level in 1960 but this was probably based on different urban definitions; these show Japan's level of urbanization increasing from 35 per cent in 1950 to 60 per cent in 1980.

¹¹⁶ Kim, Sukkoo (1999), "Urban Development in the United States, 1690–1990", Working Paper 7120, National Bureau of Economic Research, Cambridge (USA), 46 pages.

¹¹⁷ Woong Hong, Sung (1996), "Seoul: A global city in a nation of rapid growth", chapter 5 in Fu-Chen Lo and Yue-Man Yeung, *op. cit.*, pages 144–178.

¹¹⁸ Tsai, HH (1996), "Globalization and the urban system in Taiwan", chapter 6 in Fu-Chen Lo and Yue-Man Yeung, *op. cit.*, pages 179–218.

¹¹⁹ Preston, 1979, and Graumann, 1977, *op. cit.*

¹²⁰ Davis, Kingsley (1973), "Cities and mortality", International Population Conference, International Union for the Scientific Study of Population (IUSSP), Vol. 3, pages 259–282.

¹²¹ UNCHS, 1996, *op. cit.*

¹²² UN Population Division, 2006, *op. cit.*

from censuses in 1948, 1957, 1967, 1978, 1988 and 2002. If the rate of urban change is considered in terms of the rate of change in the level of urbanization, then the most rapid rate of change was from the mid-1960s to 1980. But if the rate of urban change is considered in terms of the increment in the urban population, the most rapid change is during the 1990s. The period 1950–1955 was another period of very rapid change in terms of the level of urbanization but it was also the period with the smallest increment in the urban population. Figure 16 highlights how different “urban trends” appear, depending on which of the two indicators are chosen.

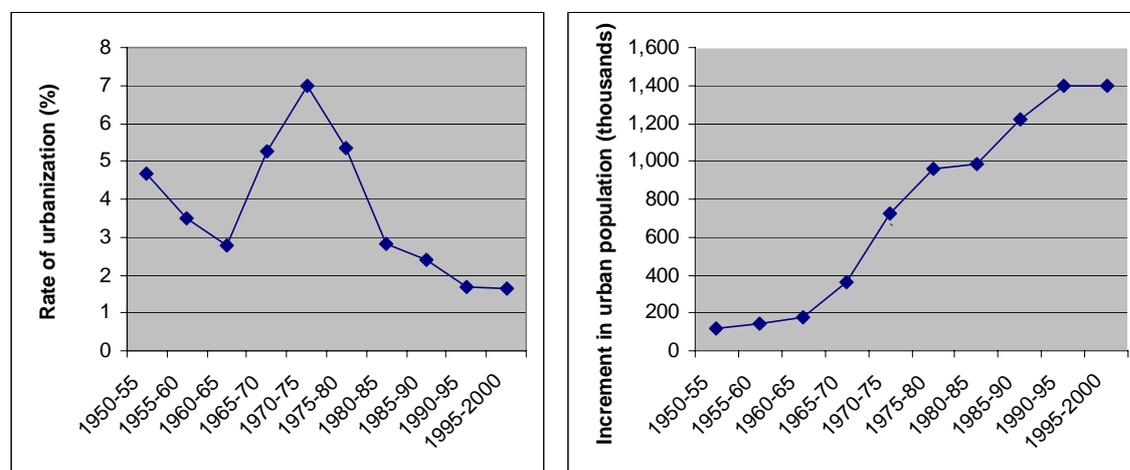
Table 8: Tanzania – selected urban statistics

	Rate of change in level of urbanization (%)	Level of urbanization at the beginning of the period (%)	Urban population at the beginning of the period (thousand)	Increment in urban population (thousand)
1950–55	4.67	3.5	267	117
1955–60	3.48	4.4	384	141
1960–65	2.79	5.3	525	176
1965–70	5.28	6.0	701	366
1970–75	7.01	7.9	1,067	721
1975–80	5.34	11.2	1,788	957
1980–85	2.83	14.6	2,745	989
1985–90	2.38	16.8	3,734	1,220
1990–95	1.68	18.9	4,954	1,400
1995–2000	1.65	20.5	6,354	1,401
2000–	–	22.3	7,755	–

Figure 16: Two different indicators of the same “urban growth”, Tanzania, 1950–2000

a) Rate of urbanization

b) Increment in urban population



Reviewing the rate of change in levels of urbanization for the period 1980–2000, Asia has a more rapid rate of change than sub-Saharan Africa. Many of the nations with the most rapid rate of change are in sub-Saharan Africa, but many Asian nations are among the 25 nations with the most rapid rate of change, and include Nepal, Indonesia, China, the Philippines and Bangladesh.

The world’s “exploding” or fastest-growing cities are in low- and middle-income nations. Most of the world’s fastest-growing cities are in low- and middle-income nations, but there are important exceptions. The fact that some of the world’s fastest-growing cities are in high-income nations was noted above in Section 2. Las Vegas, Phoenix-Mesa and Orlando in the USA were among the world’s most rapidly growing large cities for the period 1950–2000.

Comparing population growth rates for cities over several decades is always complicated by the fact that relatively small differences in the populations of these cities at the beginning of the period can lead to large differences in their population growth rates. For instance, in Table 9, showing city population growth rates for 50 and 100 year periods, Miami and Chicago have the highest population growth rates – but this is in part because they had such small populations in the beginning of the period considered compared to the other cities listed. Table 9 groups cities so they have broadly comparable population sizes at the beginning of the period, except in the fourth grouping.

From the first group, Bangalore and Addis Ababa are often given as examples of cities that grew very rapidly in recent decades – but the growth of Tokyo, 1974-1925, and of New York, 1850-1900, was comparable; so too was the growth of Atlanta, 1950-2000. In the second group, Nairobi, Kenya's capital, is often held up as an example of a particularly rapidly growing city – but Los Angeles had a much higher rate of growth, 1900-1950, than Nairobi did, 1950-2000. The growth rates of Athens, 1900-1950 and of Phoenix, 1950-2000, were also close to that of Nairobi, 1950-2000. In the third group, there are examples of cities that grew very rapidly over a 50 year period and had under 100,000 inhabitants at the beginning of this period – and here population growth rates for Las Vegas and Orlando for 1950-2000, for Dallas, 1900-1950, and for Chicago, 1850-1900, are broadly comparable to the rapidly growing sub-Saharan African cities listed. In the fourth group, when viewing population growth over the whole 20th century, the growth of Tokyo, Seoul and Los Angeles (all in high-income nations) is comparable to Dhaka, Karachi and Kolkata, three cities often held up as particularly fast growing cities - although for Kolkata (previously Calcutta) its population growth rate has dropped greatly in recent decades. The population of Los Angeles was around one tenth that of Kolkata in 1900, yet in 2000 it had about the same number of people in its metropolitan area. Dhaka is certainly one of the world's fastest-growing large cities over the last few decades – but Los Angeles and Dhaka had populations of comparable size in 1900 and in 2000.

Table 9: Comparisons of cities' population growth rates over 50 and 100 year periods

City	Population Year 1 (thousand)	Year 1	Population Year 2 (thousand)	Year 2	Gap	Annual average growth rate	Average increment in popn, per year (thousand)
Tokyo	596	1874	5,300	1925	51	4.4	92
New York	516	1850	4300	1900	50	4.3	76
Bangalore	746	1950	5,567	2000	50	4.1	96
Atlanta	513	1950	3,542	2000	50	3.9	61
Addis Ababa	392	1950	2,494	2000	50	3.8	42
Los Angeles	102	1900	4,046	1950	50	7.6	79
Nairobi	137	1950	2,233	2000	50	5.7	42
Athens	129	1900	1,783	1950	50	5.4	33
Phoenix-Mesa	221	1950	2,934	2000	50	5.3	54
Chicago	30	1850	1717	1900	50	8.4	34
Abidjan	65	1950	3,055	2000	50	8.0	60
Las Vegas	35	1950	1,335	2000	50	7.6	26
Dar es Salaam	84	1950	2,116	2000	50	6.7	41
Ouagadougou	35	1950	771	2000	50	6.4	15
Dallas-Fort Worth	43	1900	866	1950	50	6.2	16
Orlando	75	1950	1,165	2000	50	5.6	22
Douala	95	1950	1,432	2000	50	5.6	27
Bamako	89	1950	1,110	2000	50	5.2	20
Miami	2	1900	4,946	2000	100	8.1	49
Los Angeles-Long Beach-Santa Ana	102	1900	11,814	2000	100	4.9	117
Dhaka	90	1900	10,159	2000	100	4.8	101
Karachi	136	1900	10,020	2000	100	4.4	99
Soul (Seoul)	201	1900	9,917	2000	100	4.0	97
Tokyo	1,497	1900	34,450	2000	100	3.2	330
Kolkata (Calcutta)	1,085	1900	13,058	2000	100	2.5	120

In regard to annual average population growth rates, many cities in low- and middle-income nations have experienced very rapid growth rates, as noted above – for instance the list of major cities whose population had grown more than twentyfold since 1950. If there was a complete record of population growth rates for all major cities by decade since, say, 1800, it is likely that many of the most rapid population growth rates would have been achieved by cities in low- and middle-income nations during one or more decade over the last 50 years. Many would be capitals of sub-Saharan African nations, although again as noted above, this in part would be as apartheid like controls on people's movement were removed. But few if any would be 'unprecedented' – for instance in comparison to many Southern US cities that have grown so rapidly since 1900 (including some in Table 9) or Chicago or Pittsburgh in the second half of the 19th century or Vancouver, Detroit and some Australian cities for particular decades during the 20th century. This point has importance because "unprecedented" urban growth is so often given as a reason for the very severe urban problems facing most low- and many middle-income nations; if their urban growth is not unprecedented, the reasons for these problems must be reconsidered.

During the 1990s, Africa urbanized without economic growth. This is not so much a myth as a statement that cannot be supported or refuted because there is insufficient census data. Certainly, for many African nations, there is evidence of rates of increase in levels of urbanization falling during the 1990s (see Box 3).

Secondary cities are growing faster than large cities. Many documents claim that secondary cities or small cities are growing faster than large cities¹²³ – but any review of the inter-census population growth rates of all urban centres within a nation usually shows great variety, with some populations of urban centres growing rapidly, some growing slowly and, often, some not growing or even shrinking. An analysis of population growth rates for all urban centres for the most recent inter-census period for 70 nations (and for many other nations for other inter-census periods) showed that there is great diversity among small urban centres within each nation with regard to their inter-census population growth rates.¹²⁴ In most nations, there is usually a group of “secondary cities” (however defined) that are the most rapidly growing cities; as noted above, it is rare for the largest cities to be among the nation’s most rapidly growing cities in terms of annual average population growth rate. But as well as secondary cities (or other urban centres) with rapidly growing populations, there are also those with slow growth. In aggregate, the populations of secondary cities (however defined) may be growing faster than those of large cities (however defined), but the aggregate statistics mask large variations.

The poor live in peri-urban areas. It has become common for reference to be made to the poor living in “peri-urban areas”, yet in virtually all cities, particular peri-urban areas are also the chosen location for middle- and upper-income groups. In addition, mapping the locations that have a predominance of low-income groups in any city usually produces a diverse patchwork of locations, including some in the inner city (including tenements and areas with cheap boarding houses), and many that are not “peri-urban” (however peri-urban is defined). Many of the world’s rapidly growing cities do have many illegal or informal settlements developing on their periphery but it is incorrect to assume that most of the poor live in peri-urban areas, or that it is only the poor that live in peri-urban areas.

Migrants are a disadvantaged group. It is often assumed that migrants are a “disadvantaged group” within city populations. This probably originates from the myth that many “poor migrants” are foolishly attracted to cities’ “bright lights” – in contrast to the recognition that migrant flows are logical responses to the changing spatial pattern of economic opportunity (unless people are displaced by conflict or disaster). But it is difficult to generalize about migrants. Many come to cities with good contacts (or come to join other family members). Many have above-average education levels or come to urban areas to enrol in secondary schools or higher education. Many come because they can get good jobs with above-average incomes. In many nations, or in particular cities, a high proportion of migrants come from other urban centres, not from rural areas. It is often assumed that it is mostly migrants who live in squatter settlements, but many case studies show a high proportion of city-born residents, or migrants who have been in the city for many years, living in squatter settlements. It is generally inadequate incomes that determine who lives in squatter settlements, not being a migrant or a non-migrant. In most cities, there are particular foreign immigrant groups (and perhaps some migrant groups) that face discrimination in, for example, labour or housing markets or access to basic infrastructure, but this does not apply to all migrants. A focus on who within urban populations faces serious discrimination is likely to show that this arises much more from gender, age, class or caste than from being or not being a recent in-migrant.¹²⁵

Urbanization and political change

Perhaps the most important political influence on urban change in most nations in Africa and Asia over the last 60 years has been the dissolving of the European powers’ colonial empires. One example of the influence of political change on urban change is the very large increase in the populations of Karachi, Kolkata, Mumbai and Dhaka from the time of Partition of India with the departing British powers in 1947 (and the large increases and decreases in population in many other places in India, Pakistan and the former East Pakistan which later became Bangladesh). The growing concentration of urban population in Dhaka from 1950 to 1980 is best explained by its increasingly important political and administrative role, first as capital of East Pakistan, then as capital of Bangladesh. But the influence of economic change on urban change is generally greater than that of political change, once a nation-state has become established. For instance, Dhaka owes much of its rapid growth over the last two decades to the rapid

¹²³ See, for instance, World Bank, 1999, op. cit.

¹²⁴ Satterthwaite, 2006, op. cit.

¹²⁵ For more discussion on the extent to which migrants are not necessarily a disadvantaged group, see Beauchemin and Bocquier, 2004 and Montgomery, Stren, Cohen and Reed, 2003, op. cit.

expansion of the ready-garments industry in Bangladesh, which has absorbed 1.5 million workers, and with a high concentration of these in Dhaka.¹²⁶

In East and Southern Africa, the dynamics of urban growth over the past 40 years “cannot be understood without reference to the overarching context of the impact of white minority rule that imposed specific controls over the location and nature of urban growth in South Africa, Namibia and Rhodesia and helped to create political instability which influenced urban patterns in Mozambique, Angola and Namibia.”¹²⁷ In Africa, one of the reasons why urban change was so rapid from the 1950s onwards was because in most nations, it began from such a small base, as the European colonial powers had kept down urban populations by imposing restrictions on the rights of their national populations to live and work in urban centres. This often included preventing women and children from living with their partners in urban areas or paying only “bachelor wages” which were too low to allow a family to be supported.¹²⁸

For instance, in Somalia, throughout the colonial period, pass laws aimed to control the workforce and maintain public order. These prevented Somalis moving freely in Mogadishu, with most not allowed to stay in town after sunset. In the 1950s, these restrictive laws were lifted and the new independent state subsequently passed a law enabling Somalis to move about freely.¹²⁹ Thus, one of the reasons why urban populations grew so rapidly just before or after the ending of colonial rule was the removal or weakening of the colonial controls on population movements.¹³⁰ In some nations, a considerable part of the migrant flows to cities was women and children joining their partners (which had not been permitted under colonial rule).¹³¹ Thus, many nations were actually “under-urbanized” and experienced rapid increases in urban populations and in urbanization levels, as the “influx” controls weakened or were removed. The dates of this reduction in control varied considerably between nations; in many nations it was during the 1950s and 1960s but for Namibia and South Africa, it was as late as the 1980s and for Zimbabwe, 1980.¹³² Ethiopia escaped colonial domination but had barriers to urban migration under Haile Selassie and the subsequent socialist government that was overthrown in 1991.¹³³

Another reason for rapid urban population growth was the achievement of political independence. Newly independent governments had to build the institutions of governance that nation-states need – for instance national government departments and ministries, judiciaries, police and the armed forces, and regional/provincial/state and city and municipal governments. The national capitals of what were now independent nations housed the embassies of other nations. There was also the demand for goods and services from this new concentration of government institutions, civil servants, politicians and diplomats. Most governments also gave a high priority initially to expanding the education systems so undeveloped under colonial rule – including secondary schools and universities that are concentrated in urban areas. All this obviously boosted growth in the urban centres, which were the main political and administrative centres.

In many nations, urban growth dynamics are also much influenced by immigration and/or emigration. For instance, in South Africa, with the lifting of long-applied restrictions on African urbanization in 1986 and the ending of the apartheid government, the country became an increasingly popular destination for

¹²⁶ Afsar, 2002, op. cit.

¹²⁷ Potts, 2006, op. cit., page 80.

¹²⁸ Bryceson, Deborah Fahy (2006), “Fragile cities: fundamentals of urban life in East and Southern Africa” in Bryceson and Potts, op. cit., pages 3–38.

¹²⁹ Marchal, Roland (2006), “Resilience of a city at war: territoriality, civil order and economic exchange in Mogadishu” in Bryceson and Potts, op. cit., pages 207–229.

¹³⁰ Potts, 1995, op. cit.; Potts, 2006, op. cit.

¹³¹ Bryceson, Deborah (1983), *Urbanization and Agrarian Development in Tanzania with Special Reference to Secondary Cities*, IIED, London.

¹³² Potts, 2006, op. cit.

¹³³ Bryceson, 2006, op. cit.

refugees and migrants from other African nations, which also had profound impacts on urban change.¹³⁴ The political and economic crisis in Zimbabwe has depopulated urban centres in this nation – and considerably increased urban populations in South Africa and Zambia (among other nations). Many Tanzanian urban centres have had their population considerably increased by immigrants from nations nearby suffering civil war or instability.

Many commentators view the rapid growth of sub-Saharan African cities over the last 50 years as a serious problem – but if a considerable part of the rapid change in urban populations is related to the achievement of political independence and the removal of highly discriminatory controls on population movements (which also means that family members are now allowed to live together), it suggests that this rapid change also has positive aspects. Political changes since independence also influence urban trends. For instance, in Uganda, urban growth was slower than expected during the early post-independence period, when violence and political instability rendered economic development impossible, but then became more rapid when political stability was restored in most of the country (and the economy expanded).¹³⁵

In South Africa, the dramatic increase in urban population in the 1996 census compared to the two previous censuses was, in part, due to the exclusion of the African population living in urban areas that, in the apartheid era, were designated as the “independent states” of Transkei, Bophuthatswana, Venda and Ciskei in the censuses of 1980 and 1991. One reason why South Africa still appears relatively little urbanized in relation to its per capita income is the legacy of the apartheid regime that imposed strict controls on the right of the African population to live in urban areas. However, the impact of this legacy has been eroding since the mid-1980s when the pass controls and other controls on people’s movements began to loosen.¹³⁶ The removal of controls on people’s right to move to or live in cities produces large-scale impacts, but concentrated in time. Once women and children have joined their husbands in the cities (thereby boosting a city’s growth rate), they do not go on doing so. This movement will therefore usually drive very rapid population growth in urban populations for one inter-census period, but not for the next.

Political changes have had profound impacts on urban change in many other regions. For example, the dissolving of the Soviet Union and its economic bloc and the breaking up or reshaping of many nations in Eastern and Southern Europe have brought about major changes in urban trends. Another example is China, where scale and nature of urban change has been much influenced by political change.¹³⁷ In much of Latin America, urban systems and trends were reshaped during the 1980s and 1990s, with the introduction of or return to democratic rule, the shift in economic policies from import substitution to export promotion, serious economic problems and, in many nations, decentralization and stronger democracy within city and municipal governments.

Wars and civil conflicts have also brought major shifts in populations. For instance, millions of people fled to urban areas in Angola, Mozambique and the Sudan during civil wars there in the 1980s and 1990s, just as they had done in Zimbabwe during the liberation struggle of the 1970s.¹³⁸ It is difficult to know the exact dimensions of these movements – for instance, Angola has had no full census since 1970.¹³⁹ Yet, during the 1980s, there were very large population displacements in Angola as many rural areas were insecure and people fled to small towns and inland cities as well as main cities near the Atlantic coast. The post-election war from 1992 to 2002 affected the inland cities more, so displaced

¹³⁴ Crankshaw and Parnell, 2002, op. cit.

¹³⁵ Potts, 2006, op. cit.

¹³⁶ Crankshaw and Parnell, 2002, op. cit.

¹³⁷ The influence of the political changes post-Mao on urban change are well known; for details of how political changes influenced urban change in earlier decades, see Kirkby, 1985, op. cit.

¹³⁸ Potts, 1995, and Potts, 2006, op. cit.

¹³⁹ Cain, Allan, Mary Daly and Paul Robson (2002), *Basic Service Provision for the Urban Poor; The Experience of a Development Workshop in Angola*, IIED Working Paper 8 on Poverty Reduction in Urban Areas, 40 pages.

populations headed more to the cities on the Atlantic coast.¹⁴⁰ Obviously, urban populations are much impacted by war; for instance as shown by the variations in population in cities in Vietnam as a result of the Vietnam war – and also from the wars and political struggles preceding this. Urban changes also result from the cessation of conflicts – for instance, in both Mozambique and Zimbabwe, there was significant out-migration from some cities when conflict ceased.¹⁴¹ The number of international refugees in Africa and Europe rose to unprecedented levels during the 1990s and a considerable proportion came to live in cities, for refuge or seeking new bases for their livelihoods.¹⁴² Famines have also influenced urban trends in many African nations over the last 50 years, especially where urban centres provide rural populations with more chance of survival.

Any detailed analysis of urban change for a nation over the last few decades would find examples of political influences – for instance the development of particular areas encouraged for military or strategic reasons or to serve the constituencies of powerful national or state politicians. Just as the US government's expenditures in defence and the space programme helped underpin the redistribution of urban population towards the south and west, comparable expenditures by the Indian Federal Government (and by the former colonial government) have helped underpin Bangalore's economic success and rapid growth.¹⁴³

Urbanization in most low-income and many middle-income nations is also influenced by the institutions of development assistance – from the offices, personnel and operations of the large, formal multilateral and bilateral agencies to the multiplicity of international and national NGOs, from the very large to the very small. And, of course, there is the very large service sector that grows up to serve the demands of these institutions and their staff. One irony of this is that the high concentration of international agencies is likely to have considerably boosted the economies of certain capital cities, yet most of these international agencies have refused to work in urban areas. For instance, one wonders what proportion of livelihoods for those living in Nairobi (including the half of the population living in informal or illegal settlements¹⁴⁴) are derived directly or indirectly from the demand for goods and services from the many international agencies located there. Deborah Bryceson, discussing urban growth and urban economies in Southern and East Africa, noted the many cities in the region that serve as centres for such international agencies.¹⁴⁵

Thus, while tables showing urban population statistics for different nations for 30–60-year periods may show broad trends towards increasingly urbanized societies in much of the world, the scale and nature of such trends and their underlying causes differ greatly from country to country, and even within each country, and over time. Even if globalization and the legal and institutional changes it brings are an increasing influence in virtually all urban centres, it is important to remember how unique social, economic, political and demographic structures influence urban change within each location – and how different is the impact of globalization on each city.¹⁴⁶ There is a need for careful national studies of urban change where census data are available to compare trends between the 1970s and 1980s to the

¹⁴⁰ Cain et al., 2002, op. cit.

¹⁴¹ Potts, 2006, op. cit.

¹⁴² Castles, Stephen and Mark J Miller (1993), *The Age of Migration: International Population Movements in the Modern World*, MacMillan, London and Basingstoke, 306 pages; Boswell and Jeff Crisp, 2004, op. cit.

¹⁴³ Bhooshan, BS (1986), "Bangalore, Mandya and Mysore Districts", in Hardoy, Jorge E and David Satterthwaite (Editors), *Small and Intermediate Urban Centres: their Role in Regional and National Development in the Third World*, John Wiley (UK) and Westview (USA), pages 131-184.

¹⁴⁴ Alder, Graham (1995), "Tackling poverty in Nairobi's informal settlements: developing an institutional strategy", *Environment and Urbanization*, Vol. 7, No. 2, pages 85-107; Weru, Jane (2004), "Community federations and city upgrading: the work of Pamoja Trust and Muungano in Kenya", *Environment and Urbanization*, Vol. 16, No. 1, pages 47-62.

¹⁴⁵ Bryceson, Deborah Fahy (2006), "African urban economies: searching for sources of sustainability" in Bryceson and Potts, op. cit., pages 39-66.

¹⁴⁶ See the special issue of *Environment and Urbanization* on globalization and cities (Vol. 14, No. 1, April 2002).

1990s. For instance, the economic performance of most nations in sub-Saharan Africa was worse during the late 1980s and 1990s than it had been during the 1970s and early 1980s (in many nations, the economy shrank); to what extent did this bring less rural-to-urban migration? To what extent has the strong “urbanizing” influence of decolonization and political independence continued – or stopped? How have death rates from AIDS influenced national and urban demographics? There is also the question of how the greater economic success of some nations since 2000 has influenced urban change, although for most nations, the answer to this will have to wait several years, as it will need data from new censuses held in 2009, 2010 or 2011.

Urban bias, over-urbanization and premature urbanization

There is a long history of researchers (and politicians and civil servants) making normative judgements about urban areas or specific cities having too many people or too much public investment – or of urban populations being privileged over rural populations in some other way by the policies or expenditures of governments and international agencies. Part of this can be seen in discussions about the proportion of the population in rural and urban areas and in primate cities – for instance in discussions of “over-urbanization”, “premature” urbanization and urban primacy – and part can be seen in discussions of urban bias. There are certainly vigorous debates on these issues – to the point where some claim that urban bias has been a major reason for the scale and depth of poverty worldwide while others claim that the economic performance of many low-income nations has been greatly hampered by the lack of attention by governments and international agencies to efficient, well-governed, “investment-attracting” cities and urban systems.

It is difficult to argue with the point made by Jane Jacobs that without cities, we would all be poor.¹⁴⁷ But this was an observation on the link between wealthy economies and urbanization (and on the evidence she presents for cities creating rural development, not rural development creating cities). That there may be strong elements of urban bias and non-urban bias at the same time was well expressed by Braudel as he reflected on urbanization in the 18th century:

The towns are so many electric transformers. They increase tension, accelerate the rhythm of exchange and ceaselessly stir up people’s lives.... Towns are also oppressive, parasitical formations.... This town–country confrontation is the first and longest class struggle history has known. We should not pass censure or take sides: these parasitic towns also embodied the intelligence, risk, progress and modernity towards which the world was slowly moving.... To the rather unwieldy body of the state they lent their irreplaceable vitality. They were the accelerators of all historical time. Which does not mean that they did not make people suffer throughout the centuries, including those who lived in them.”¹⁴⁸

It would be expected that the powerful economic interests concentrated in urban areas (or usually in specific cities), and the middle- and upper-income groups whose homes and livelihoods are also concentrated there, would ensure a policy and expenditure bias that favoured them. But it would be misleading to term this urban bias if it favours only a proportion of the urban population – for instance those concentrated in national or state/provincial capitals or in only a few urban centres. Nor is urban bias an appropriate term where only a proportion of the population within each urban centre is favoured – for instance with public investments in piped water, sanitation, roads and drainage and public expenditure on schools and health care. It might be expected that labour unions would help to ensure that their members received more benefits, which in turn would favour urban areas where their members

¹⁴⁷ Jacobs, Jane (1969), *The Economy of Cities*, Random House, New York; see also Corbridge, Stuart and Gareth A Jones (no date), *The Continuing Debate about Urban Bias: The Thesis, its Critics, its Influence, and Implications for Poverty Reduction*, Department of Geography and Environment, London School of Economics and Political Science, 46 pages.

¹⁴⁸ Deborah Fahy Bryceson presented this quote at the beginning of her discussion of “Fragile cities: fundamentals of urban life in East and Southern Africa”, Bryceson, 2006, op. cit., page 3; the quote is from Braudel, Fernand (1974), *Capitalism and Material Life 1400–1800*, Fontana/Collins, page 373.

were concentrated. However, there would be very large variations between nations in the extent to which labour unions were permitted. In nations where they exist, there would be large variations in the benefits and the proportion of the urban workforce receiving them, not least because there is very low union membership within urban workforces in most nations. In many nations, political biases may be to the benefit of specific rural areas – for instance where powerful national or state/provincial politicians have predominantly rural constituencies.

Certainly, in most low- and many middle-income nations, the scale of deprivation for high proportions of the entire population of national capitals and large, successful cities hardly suggests that everyone benefits from an urban bias. It is common for between a third and half of the population in such cities to live in illegal settlements. Indeed, for large sections of this population, not only do they receive little or no benefit from public investments but their homes and livelihoods are at risk from eviction – and tens of millions of urban dwellers are evicted from their homes each year, mostly with no compensation or very inadequate compensation.¹⁴⁹ This is, in effect, government policy creating or exacerbating urban poverty. The large and growing scale of urban poverty in China is also a reminder of how very rapid economic growth sustained over 25 years, with many booming cities, does not automatically translate into less urban poverty.¹⁵⁰

But the data are not available for any comprehensive assessment of the extent and nature of urban bias in most nations.¹⁵¹ What is undeniable is that a high proportion of world's population suffering severe deprivation in terms of inadequate nutrition, ill health and premature death, and inadequate or insecure livelihoods still lives in rural areas. But it is also undeniable that a large and probably growing proportion of such people live in urban areas – and that the number of urban dwellers suffering severe deprivation has increased very substantially in the last three decades. Determining the proportions of “poor” people living in rural and urban areas is problematic, because they should not be measured with the same poverty line – as large sections of the urban population face particularly high costs for non-food necessities. It is clear that the scale and depth of urban poverty is greatly under-estimated by many official statistics and some researchers – and one reason for this is the use of inappropriate “poverty-lines” for urban populations.¹⁵² In addition, many (poor and non-poor) individuals and households have rural and urban components to their livelihoods, incomes and access to services, and so they cannot easily be assigned to either the “rural” or the “urban” population.

However, it is worth noting the changes in the distribution of population between rural and urban areas since the mid-1970s when the most influential work on urban bias was first published.¹⁵³ Between 1975 and 2005, the aggregate figure for the level of urbanization for low- and middle-income nations changed from 27 to 43 per cent. During this same period, the urban population of low- and middle-income nations grew by 1.44 billion while the rural population grew by 790 million.

So, where is the statistical basis for assessing some aspects of “urban bias”? One aspect would be the quality and extent of public service provision – but the quality and accuracy of much of the data are in doubt, for instance as in the lack of data for most nations on whether (rural or urban) dwellers have

¹⁴⁹ For a summary of this, see du Plessis, Jean (2005), “The growing problem of forced evictions and the crucial importance of community-based, locally appropriate alternatives”, *Environment and Urbanization*, Vol. 17, No. 1, pages 123–134. See also the websites of the Centre on Housing Rights and Evictions (www.cohre.org), the Asian Coalition for Housing Rights (www.achr.net) and the Urban Resource Centre, Karachi (www.urckarachi.org/).

¹⁵⁰ Solinger, Dorothy J (2006), “The creation of a new underclass in China and its implications”, *Environment and Urbanization*, Vol. 18, No. 1, pages 177–194.

¹⁵¹ See for instance Corbridge and Jones, no date, op. cit.

¹⁵² Satterthwaite, David (2004), *The Under-estimation of Urban Poverty in Low and Middle-Income Nations*, IIED Working Paper 14 on Poverty Reduction in Urban Areas, IIED, London, 69 pages.

¹⁵³ Lipton, Michael (1977), *Why Poor People Stay Poor – Urban Bias in World Development*, Temple Smith, London.

access to water and sanitation adequate for good health.¹⁵⁴ There is also the problem inherent in studies that measure urban bias as based on where services are located. Urban populations appear much better served in regard to their physical distance from services – but proximity to a service does not mean that it can be accessed. Many urban dwellers living close to, say, water mains, schools or hospitals have as little chance of using these services as do rural dwellers with no such facilities nearby.

There are more indicators available on average life expectancy and on premature mortality (for instance through infant, child or maternal mortality rates), which are often available for rural and urban populations. These usually show urban populations with some “urban advantage” (but not always) but the extent of the urban advantage in many low-income nations is surprisingly small, especially if we assume that most middle- and upper-income groups live in urban areas.¹⁵⁵ Where data on infant and child mortality rates are available for urban poor groups in particular cities, these are generally much higher than the rates for rural areas – although this is not a fair comparison in that “urban poor” should be compared to “rural poor”. If a much larger, more comprehensive information base was available, it seems likely that this would show a strong “urban advantage” for middle- and upper-income groups in particular cities in almost all nations, but very large differences between nations in the extent of the “urban advantage” for low-income urban dwellers. Perhaps to the point where in many nations, there was little or no urban advantage for large sections of the urban population.

In some nations, it may be that there is “rural advantage” and an “urban penalty” for low-income groups. It is also likely that the extent of the “urban advantage” would vary greatly across the urban population of any nation – for instance between different urban centres and between districts within cities. Twenty years ago, it was suggested that a more accurate term for this bias would be “middle- and upper-income group, large-city bias”,¹⁵⁶ and this seems unlikely to have changed in many cases. Obviously, the extent to which the urban poor benefit from any “urban bias” is much influenced by the quality of local government, especially in service provision and local government’s attitudes to and relationships with those of its citizens living in informal or illegal settlements and tenement districts.

Another possible indicator for assessing urban bias would be the proportion of total public investment that urban areas receive in a nation, relative to rural areas. But should this bias be measured in terms of urban areas’ share of the total population, or relative to the contribution of urban-based enterprises to total GDP (which would produce very different figures)? There is not much evidence of bias in relation to either of these – and there are some figures for some nations showing that urban centres get a very low percentage of government capital expenditures.¹⁵⁷ Almost certainly, in most nations, urban centres get a lower share of government capital investments than the share of the nation’s GDP their enterprises generate. It is also likely that, in many nations, a higher proportion of the government’s total tax base is generated by urban-based populations and enterprises than the share these receive in government investments. In many more nations, there are statistics showing that urban governments or the governments of specific cities get a very low proportion of total government revenues¹⁵⁸ – although this

¹⁵⁴ See Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; also UN-Habitat (2003) *Water and Sanitation in the World’s Cities: Local Action for Global Goals*, Earthscan, London. Note that the WHO/UNICEF unit that monitors provision for water and sanitation in each nation makes clear that there are no data available for most nations on the proportion of urban (and rural) dwellers with provision for water and sanitation to a standard that is adequate for health – which is why its statistics are on who has access to “improved” provision rather than adequate provision.

¹⁵⁵ See for instance the infant and child mortality rates in rural and urban areas in Demographic and Health Surveys (DHS) STATcompiler (<http://www.measuredhs.com/>).

¹⁵⁶ Hardoy and Satterthwaite, 1989, op. cit.

¹⁵⁷ See the examples of Cameroon and Niger described in Kessides, 2006, op.cit.; see also Campbell, Tim (2003), *The Quiet Revolution: Decentralization and the Rise of Political Participation in Latin American Cities*, University of Pittsburgh Press, Pittsburgh, 208 pages; Tulchin, Joseph S. and Andrew Selee (2004), *Decentralization and Democratic Governance in Latin America*, Woodrow Wilson International Center for Scholars, Washington DC, 276 pages.

¹⁵⁸ Kessides, 2006, op. cit.; UNCHS, 1996, op. cit.

may not be evidence against urban bias since much of the investment by higher levels of government may be in urban areas (or specific urban areas).

Another indicator of the extent of urban bias would be the proportion of development assistance that goes to urban areas – but it is difficult to establish consensus on what division between rural and urban would constitute no urban or rural bias. The assumption that there is urban bias in international development assistance has not been proven. Analyses of the extent of development assistance allocated to meeting basic needs between rural and urban areas from the 1970s to the 1990s found no evidence of urban bias;¹⁵⁹ analysis of the priority given by a range of international agencies to urban infrastructure and services found many giving this a very low priority.¹⁶⁰ Even in 2007, many bilateral agencies still avoid funding urban areas and have no urban policies. Most bilateral agencies give a very low priority to infrastructure.¹⁶¹ For the few multilateral and bilateral agencies that have allocated a significant proportion of their funding commitments to urban infrastructure, this certainly brought few benefits to most of the urban population. Rural specialists rightly remain outraged at the failure of development policies to reduce rural poverty (in all its different manifestations). Meanwhile, a growing body of urban specialists rightly remains outraged at the failure of development policies to reduce urban poverty (also with many different manifestations), even in nations and cities with successful economies. Perhaps they need to work more together to identify the systemic failures of development assistance to address both rural and urban poverty.

Any analysis of urban bias would also need to address other ways in which urban populations might be privileged over rural populations. For instance, who benefits and who loses from macro-economic and pricing policies? Policies that directly or indirectly lower the prices or returns that farmers get for their crops would be one obvious example. But here it is difficult to separate rural from urban in that a bias against agriculture affects large sections of the urban population whose livelihoods depend on demand from rural producers and consumers for goods and services – and many urban centres' economies depend on forward and backward linkages with agriculture. Policies or programmes that directly or indirectly lower the cost of some foodstuffs or other commodities may be biased in favour of urban populations – but here, there is a need to consider what proportion of the urban population benefits from this. For instance, access to subsidized goods may require formal documentation, which large sections of the urban population cannot obtain, or a legal address, which many will lack, for instance if they live in informal settlements.

One manifestation of urban bias would be a high proportion of the population living in urban areas relative to the nation's per capita income. It is common to find comments about particular nations or regions being “over-urbanized” or suffering from “premature urbanization”.¹⁶² Another manifestation of urban bias (or perhaps more accurately “largest-city” bias) might be a high proportion of a nation's urban population in its largest city, often termed urban primacy. But do the data exist to allow such judgements? First, there are uncertainties in the accuracy of the basic data about nations' levels of urbanization; as noted above, for many nations, there are no census data for the last 20 years. For many nations, there are only one, two or three censuses in the period since 1950 which seems a rather limited

¹⁵⁹ Satterthwaite, David (1997), *The Scale and Nature of International Donor Assistance to Housing, Basic Services and Other Human Settlements Related Projects*, WIDER, Helsinki, 38 pages; Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; Satterthwaite, David (2001), “Reducing urban poverty: constraints on the effectiveness of aid agencies and development banks and some suggestions for change”, *Environment and Urbanization*, Vol. 13, No. 1, pages 137–157.

¹⁶⁰ Ibid.

¹⁶¹ The sectoral priorities of each of the official bilateral aid agencies and for most multilateral agencies is recorded by the OECD Development Assistance Committee and published in its annual reports; see also www.oecd.org/dac/stats/dac/dcrannex.

¹⁶² For instance, the Commission for Africa talks about the region's premature urbanization, as well as having many statements that over-state the region's level of urbanization and the speed with which it has urbanized; see Commission for Africa, 2005, op. cit.

basis for analysing how rapidly they urbanized over five or six decades. Second, there are differences in the criteria used by governments to define urban centres or urban populations, which, as discussed above in Section 2, greatly limit the validity of international comparisons. If a nation's level of urbanization can increase or decrease by as much as 10–20 per cent depending on what criteria are chosen to define urban populations or urban centres, this greatly limits the validity of international comparisons. Also as noted above, some governments have deliberately chosen or changed such criteria to keep down their urban population figures.

Because primacy is generally measured by calculating the proportion of a nation's urban population in its largest city, the validity of international comparisons depends on nations having comparable definitions for their urban populations (which is not the case) and similar ways of defining the physical boundaries of the largest city (which is also not the case). In many nations, the level of primacy can be high or low, depending on which boundary is chosen for the largest city. As noted above (in Section 2, including Table 4), large cities or metropolitan areas often have two, three or four different populations, depending on which boundary is chosen – for instance the city, the built-up area, the metropolitan area and the metropolitan region. Colombo's primacy for example is much influenced by which boundary is used for Colombo and which urban definition is used for Sri Lanka (as discussed near the beginning of Section 3): was Sri Lanka 15 or 48 per cent urban in 2005?

Perhaps much of the literature on primacy has exaggerated the extent of primacy by using figures for primate city populations that were projections - that when census data became available, proved to be too high. To give just one example, consider the paper by Alberto Ades and Edward Glaeser published in 1995 that seeks to explain the apparently high concentration of nations' urban populations in a single city.¹⁶³ This is an influential paper and one that is widely quoted. The authors assume that it is valid to use city populations drawn from the 1989 *Prospects of World Urbanization*¹⁶⁴ for 1985 – but clearly many of the city population figures for this year were based on estimates in the absence of any census data or on projections from data from censuses held many years previously. When census data became available to provide a more reliable base for population figures for 1985, many cities included in the Ades and Glaeser analysis had populations that were much smaller than the figures they had used. This analysis also took no account of the differences in the criteria used by nations to define their urban population – even though this obviously influences any measure of primacy when the population of each nation's 'largest city' (or a set of the largest cities) is divided by its urban population. It also took no account of the different criteria used to set the boundaries within which city populations are measured. The validity of other aspects of this paper can also be called into question¹⁶⁵ but perhaps the issue to emphasize is the limitations in the data available about changing urban populations and city populations over the last few decades for many nations. Also, the need for more detailed national and city studies,

¹⁶³ Ades, Alberto F and Edward L Glaeser (1995), "Trade and circuses; explaining urban giants", *The Quarterly Journal of Economics*, Vol. 110, No, 1, pages 195-227.

¹⁶⁴ United Nations (1989), *Prospects of World Urbanization, 1988*, Population Studies No. 112, Department of International Economic and Social Affairs, ST/ESA/SER.A/112, New York, 204 pages.

¹⁶⁵ The validity of the data used on the political structure of nations could also be questioned; this is one among many papers that have sought to analyze associations between urban structures and political structures for a wide range of low- and middle-income nations. The paper claims that there is a robust causality between dictatorships and urban concentration. This is puzzling in that there are so many examples within the last 60 years of non-democratic governments strongly controlling people's movement to urban areas including the largest cities – for instance most of the colonial regimes in Africa, the governments that used pass-controls and many examples of socialist governments. There is also the issue that any nation's largest city and urban system has within it the influence of a long history of political (and economic and demographic) change and many nations that would have been classified as having dictatorial political structures in the late 1970s or early 1980s also had long periods of democratic governments prior to this. For instance, Chile, Argentina and Uruguay always figure prominently in among the most primate-city dominated nations – but this cannot be ascribed to the non-democratic governments they had for parts of the 1970s and 1980s because each had long periods of democratic governments before this.

including those that test, for particular nations and cities, the validity of the generalizations made by papers like the one discussed above on primacy and the factors that contribute to it.

While keeping the limitations in mind, what do the available data show? If sub-Saharan Africa is “over-urbanized” or suffering from premature urbanization, Figure 14 should show a cluster of sub-Saharan African nations with relatively high urbanization levels in relation to their per capita GDPs – which it does not. If sub-Saharan Africa was over-urbanized or suffered premature urbanization, this should be evident in an above-average rate of increase in its level of urbanization. But the UN data suggest that sub-Saharan Africa has actually had a lower rate of increase in its level of urbanization from the mid-1970s to 2000 than East Asia and South-east Asia. From 1950 to 1975, sub-Saharan Africa did have an unusually high rate of increase in its urbanization level compared to other regions – although it was not much higher than that of West Asia and this was the period when the apartheid-like controls on the rights of Africans to live and work in urban areas were removed in many nations. It would probably be more accurate to conceive of sub-Saharan Africa as significantly “under-urbanized” in the 1950s and 1960s than as “over-urbanized” in the 1970s or 1980s. There is then the issue of how these statistics would change if there were recent census data for all sub-Saharan African nations – which might well show that sub-Saharan Africa was less urbanized now than the latest UN statistics suggest.

4. The potential costs of rapid urban expansion¹⁶⁶

Few large cities had their initial urban expansion guided by a rational plan – and, for those few, plans were applied only to parts of the expansion, or the planning guidelines, rules and norms were only partially applied. The many factors influencing the location and initial development of cities include the availability of water, good location on transport routes (where river or sea transport may be important), the location of government (with government agencies and employees as potential sources of demand for goods and services), a healthy climate, rich agricultural lands and, especially in the past, defence. But the main driver of growth for most rapidly growing cities over the last two decades has been private enterprises choosing to concentrate there. Most cities initially developed and expanded with little government attention given to planning in the expanding urban periphery (for instance, to protect watersheds or agricultural land or ensure sufficient land for housing), or to ensuring the provision of infrastructure there.

Over time, many cities have acquired structures of governance¹⁶⁷ that addressed these issues and, as the competence, capacity and accountability of urban governments developed (usually backed by national reforms and more democratic systems of government), so urban expansion became less chaotic and provision for urban infrastructure and services greatly improved. In cities in high-income nations, it is taken for granted that there are planning controls on urban expansion and on new developments, that all new buildings will meet official building standards, and that there are piped-water, sewer and drainage networks to which new developments can connect.¹⁶⁸ It is also accepted that the staff of urban governments are answerable to elected representatives. Yet it is only in the last 100 years or so that the governance structures to achieve this began to be accepted and developed. Only around a century ago,

¹⁶⁶ This section draws on Hardoy, Mitlin and Satterthwaite, 2001, op. cit.

¹⁶⁷ The term governance is used in preference to government, because it includes not only the political and administrative institutions of government (and their organization and inter-relationships) but also the relationships between government and civil society – see McCarney, Patricia L (1996), “Considerations on the notion of ‘governance’ – new directions for cities in the developing world” in McCarney, Patricia L (editor), *Cities and Governance: New Directions in Latin America, Asia and Africa*, Centre for Urban and Community Studies, University of Toronto, Toronto.

¹⁶⁸ There are exceptions to this, and the enterprises developing new housing may be required to cover some of the infrastructure costs, especially where the new developments are distant from existing trunk infrastructure.

most cities in Europe still had infant and child mortality rates that were higher than those of most cities in low-income nations today.¹⁶⁹

Most cities and smaller urban centres around the world still do not have governance structures that fulfil many of the key roles noted above. This is especially so in low-income nations and most middle-income nations. Most cities may be centres of wealth and opportunity but they are also centres of extreme poverty and usually of very large and often growing inequality – in terms of income levels, housing conditions and access to services. Around a billion urban dwellers – a sixth of the planet’s population – are homeless or live in crowded tenements, boarding houses or houses or shacks in informal/squatter settlements (often three or more to a room).¹⁷⁰ Many are denied the vote, even in democracies, because they lack the legal address required for voter registration. They are often exploited by landlords, politicians, police and criminals. Many city governments are unrepresentative, so any agreement negotiated between them and an enterprise (or other government agency) will not be recognized as legitimate by most local people. There are often problems with corruption (although this is often driven as much by the behaviour of external agencies as by local practices). Where city governments are elected, it is common for local politicians to use patron–client relationships with their constituents, which undermine democracy and accountability.

Government investment in the basic infrastructure that all businesses and households need – all-weather roads and paths, regular supplies of safe piped water, provision for wastewater removal and storm drainage – falls far behind the growth in population and enterprises. So too does the provision of basic services, including provision for schools, health centres and garbage collection. The result is that hundreds of millions of urban dwellers today live in homes and neighbourhoods with little or no government provision for infrastructure and services.¹⁷¹ As described in detail in two recent United Nations reports,¹⁷² around half the urban population in Africa and Asia lack provision for water and sanitation to a standard that is healthy and convenient. For Latin America and the Caribbean, more than a quarter lack such provision (Table 10).

Table 10: Estimated urban dwellers lacking adequate provision for water and sanitation

Region	Number and proportion of urban dwellers without adequate provision	
	Water	Sanitation
Africa	100–150 million (c.35–50%)	150–180 million (c.50–60%)
Asia	500–700 million (c.35–50%)	600–800 million (c.45–60%)
Latin America and the Caribbean	80–120 million (c.20–30%)	100–150 million (c.25–40%)

SOURCE: UN-Habitat (2003), *Water and Sanitation in the World’s Cities: Local Action for Global Goals*, Earthscan Publications, London.

¹⁶⁹ See Bairoch, 1988, op. cit. for details of infant and child mortality rates in cities in the late 19th and early 20th centuries, especially Table 14.2, page 231. Data on infant mortality rates for European cities for the years 1900 to 1913 show that almost all cities had rates above 100 per 1,000 live births – and some had rates above 200 – for instance Antwerp, Berlin, Leipzig, Moscow and Leningrad for years between 1900 and 1904.

¹⁷⁰ See Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; also UN-Habitat (2003), *The Challenge of Slums*, op. cit.

¹⁷¹ Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; also UN-Habitat (2003), *Water and Sanitation in the World’s Cities*, op. cit.

¹⁷² UN-Habitat, 2003, *Water and Sanitation in the World’s Cities*, op. cit; United Nations Human Settlements Programme (2006), *Meeting Development Goals in Small Urban Centres; Water and Sanitation in the World’s Cities 2006*, Earthscan Publications, London.

It is common for cities to have half or more of their population unserved by water taps in their homes or yards, and for more than three-quarters to have inadequate provision for sanitation. Most cities in Africa have less than 10 per cent of their population connected to sewers; and many cities have no sewers at all. Many cities have privatized some infrastructure provision but, at least for water, sanitation, drainage and garbage collection, this has rarely meant the extension of provision to unserved populations. Thus, hundreds of millions of urban dwellers in Africa, Asia and Latin America have to rely on water sources that are unsafe, unreliable and often difficult to access. They have great difficulty getting sufficient water for washing, laundry and personal hygiene. At least 850 million urban dwellers lack adequate provision for defecation.¹⁷³ At best, they have pit latrines – and often they have to share these with so many other people that getting access to them is difficult, as is ensuring that the latrines are kept clean. Or they have no provision at all and have to defecate in the open or into cardboard boxes, newspapers or plastic bags. Probably as many as one hundred million urban dwellers have no toilet facilities they can use (or can afford), and have to rely on open defecation. Inadequate investment in drainage and watershed management means that storms or heavy concentrations of rainfall regularly cause serious flooding. In poorly managed cities, it is common for one child in five to die before the age of five, with most of the deaths related to poor housing conditions and the lack of infrastructure and services.¹⁷⁴

The absence of effective governance structures also means little planning, little development control and little investment in trunk infrastructure in the expanding urban periphery – or only planning controls that can be ignored or subverted by powerful political or economic interests.¹⁷⁵ In the absence of any effective land-use plan or other means to guide and control new developments, cities expand haphazardly. This produces a patchwork of different developments, including businesses and high-density residential settlements, interspersed with land that remains undeveloped and is held by its owners in anticipation of speculative gain. Land development occurs as a result of legal and illegal action by various landowners, builders, developers and real-estate firms in an ad-hoc way. There are usually many legal sub-divisions around the city for houses or commercial and industrial buildings that have been approved without reference to any city-wide plan. Many major cities have no city-wide plan because the built-up areas fall into different local jurisdictions, and no governance structure has developed to allow coordinated planning between them.

Many cities have a considerable range of new factories and other businesses developing in surrounding “rural” areas, although their functioning and the markets they serve are intimately tied to the city.¹⁷⁶ In more prosperous cities, many new, low-density, high-income residential neighbourhoods often develop around the city, along with some commercial developments and leisure facilities for higher-income groups (for instance, country clubs and golf courses). In many cities, especially those with high levels of violence and other crimes, there are often many walled residential developments (usually close to major highways) that are protected 24 hours a day by private security firms – the “gated communities” or closed neighbourhoods, the *barrios cerados*.¹⁷⁷ There are also usually many unauthorized residential

¹⁷³ UN-Habitat, 2003, *Water and Sanitation in the World's Cities*, op. cit.

¹⁷⁴ Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; also Satterthwaite, 2004, op. cit.

¹⁷⁵ For a well-documented example of how this happens, see Kelly, Philip F (1998), “The politics of urban–rural relationships: land conversion in the Philippines”, *Environment and Urbanization*, Vol. 10, No. 1, pages 35–54.

¹⁷⁶ Jones, Gavin W (1983), “Structural change and prospects for urbanization in Asian countries”, *Papers of the East West Population Institute*, No. 88, East–West Center, Hawaii, 46 pages; also McGee, TG (1987), “Urbanization or Kotadesasi – the emergence of new regions of economic interaction in Asia”, Working Paper, Environment and Policy Institute, East–West Center, Honolulu, June.

¹⁷⁷ These have been noted as major elements in changing urban patterns within many cities, including Sao Paulo, Buenos Aires and Cairo – see Caldeira, Teresa PR (1996), “Building up walls: the new pattern of spatial segregation in São Paulo”, *International Social Science Journal*, No. 147, March, pages 55–66; also Pérez, Pedro (2002), “Buenos Aires: fragmentation and privatization of the metropolitan city”, *Environment and Urbanization*, Vol. 14, No. 1, April, pages 145–158; and Denis and Bayat, 2002, op. cit.; see also various papers in *Environment and Urbanization*, Vol. 16, No. 2 (October 2004), as this issue is on urban violence and insecurity.

developments and, where regulation is lax, these may cater for middle- and upper-income developments as well as low-income developments. There are usually illegal squatter communities too, which originally located in these peripheral areas because the site's inaccessibility, lack of infrastructure and poor quality gave the inhabitants more chance of avoiding eviction; choosing too valuable or visible or well-located a site means more likelihood of eviction. In many cities (including Buenos Aires, Delhi, Manila, Mumbai, Phnom Penh, Santiago and Seoul), the urban periphery also has settlements that were formed when their inhabitants were dumped there after being evicted from their homes by "slum" or squatter clearance.¹⁷⁸ It is now common for between a quarter and half a city's population to be living in squatter settlements or in other land developments that never received official approval.

Uncontrolled physical growth has most impact on what might be termed an immediate hinterland around a city; much of this cannot be described as urban or suburban, and yet much of it is no longer rural. If the city has been designated a "metropolitan centre", much or all of this hinterland may fall within the metropolitan boundaries. New developments are usually most intense on either side of major roads or highways – especially where these link the city to other nearby urban centres.

The unregulated physical expansion of a city's built-up area has serious social and environmental consequences, including the segregation of low-income groups in the worst located and often most dangerous areas. Illegal or informal settlements are often concentrated on land sites subject to flooding (as in, for instance, Bangkok, Buenos Aires, Delhi, Guayaquil, Jakarta, Lagos, Monrovia, Mumbai, Port Harcourt and Recife), or on hillsides at risk from landslides or mudslides (as in Rio de Janeiro, La Paz and Caracas). Low-income groups often live on hazardous sites such as these because they offer well-located sites on which the settlers have the best chance of establishing a home and/or avoiding eviction. But these are also land sites to which it is more difficult and expensive to extend basic infrastructure. Increased costs for infrastructure also arise because new developments spring up far from existing networks of roads, water mains and sewers and drains to which they need connection. Around many cities, there is often the paradox of extreme overcrowding, serious housing shortages and acute shortages of infrastructure and services in particular areas and yet large amounts of land left vacant or only partially developed, with all that this implies in terms of increasing the cost of providing infrastructure and services. This is also a reminder that the overcrowding and housing shortages are rarely the result of a lack of vacant land.

Cities transform environments and landscapes not only within the built-up area but also for considerable distances around them. The inhabitants, environment and natural resource base of this wider region are usually affected by:

- transformations brought by the expanding city – for instance, as land surfaces are reshaped, valleys and swamps filled, large volumes of clay, sand, gravel and crushed rock extracted and moved, water sources tapped and rivers and streams channelled;¹⁷⁹
- demand from city-based enterprises, households and institutions for the products of forests, rangelands, farmlands, watersheds or aquatic ecosystems that are outside its boundaries;
- solid, liquid and air-borne wastes generated within the city and transferred to the region around it.

Cities require a large input of fresh water and other natural resources, and the more populous the city and the richer its inhabitants, the greater the demand on resources and, in general, the larger the area from which these are drawn. As nations become increasingly wealthy, it is common for increasing proportions of food and other natural resources to be imported. Water needed for industrial processes, supplying residential and commercial buildings, transporting sewage and other uses is then returned to rivers, lakes

¹⁷⁸ For a review of the scale and nature of these, see du Plessis, 2005, op. cit.

¹⁷⁹ Douglas, Ian (1983), *The Urban Environment*, Edward Arnold, London, 229 pages; also Douglas, Ian (1986), "Urban Geomorphology" in Fookes, PG and PR Vaughan (editors), *A Handbook, of Engineering Geomorphology*, Surrey University Press (Blackie and Son), Glasgow, pages 270–283.

or the sea in a state of much-reduced quality. Storm and surface run-off also collects large pollution loads as it flows through cities – especially where there is inadequate provision for solid waste collection, as much of the uncollected solid waste generally finds its way into water bodies. Air pollutants generated by city-based enterprises or consumers are often transferred to the surrounding region through acid rain, affecting soils and water bodies (and sometimes damaging vegetation). In general, the weakness of local authorities in the areas around cities means that many environmental costs generated by production and consumption within the city are transferred to the surrounding areas.¹⁸⁰

Within this area around cities, agriculture is generally in decline, as people or companies buy land in anticipation of its change from agricultural to urban use, and of the associated increases in land value as the city's built-up area and transport system expand. There is usually a lack of effective public control of such changes in land use or on the profits that can be made from them, even when it is public investment (for instance, the expansion of road networks) that creates much of the increase in land values. Around prosperous cities, this process is also encouraged by the scale of profits that can be made – and it is difficult to develop governance structures that prevent politicians and powerful vested interests being the prime beneficiaries. In many cities, land speculation may also be encouraged by a lack of other domestic high-return investment opportunities.

Uncontrolled physical expansion also destroys natural landscapes around cities that should be preserved as parks, nature reserves, historic sites or simply as areas of open space for recreation and children's play. The need to preserve or develop such areas might seem less urgent than, say, land for housing. But once an area is built up, it is almost impossible (and very expensive) to remedy a lack of open space. In addition, this affects lower-income groups especially. Richer households tend to live in residential areas with more open space, and their homes often have gardens. They are much more mobile and so can travel more easily out of the city. And they can afford to become members of the "country clubs", sports clubs and golf courses, and so can enjoy walks, playgrounds and sports facilities.

Other cost transfers generated within cities are into the future. Emissions of carbon dioxide (the main greenhouse gas) generally rise with economic growth, especially for low-income nations, and are concentrated in cities, as the main centres of production, consumption and waste generation. These emissions transfer costs to the future through the human and ecological costs of global warming – and it is the larger, lower-density urban patterns with increasing proportions of people dependent on private automobiles that generally have the highest greenhouse gas emissions per person. Current levels of urban consumption for the products of agriculture and forestry, where the soils and forests are being destroyed or degraded and biodiversity reduced, are also transferring costs to the future. The work of William E Rees on the "ecological footprint" of cities¹⁸¹ has made evident the large land area on whose production the inhabitants and businesses of any city depend for food, other renewable resources and the absorption of carbon to compensate for the carbon dioxide emitted from fossil fuel use. Prosperous cities depend on the ecological productivity of very large areas, but can draw on "distant elsewhere", so this does not impact on their own surrounds. They can maintain their high-quality environments and protect land around them because most of the energy-, resource-, water- and pollution-intensive goods consumed by their inhabitants are imported. Continuing urban growth, without attention to reducing cities' ecological

¹⁸⁰ Hardoy, Mitlin and Satterthwaite, 2001, op. cit.; also McGranahan, Gordon, Pedro Jacobi, Jacob Songsore et al., (2001), *The Citizens at Risk: From Urban Sanitation to Sustainable Cities*, Earthscan Publications, London, 200 pages.

¹⁸¹ See Rees, William E (1992), "Ecological footprints and appropriated carrying capacity", *Environment and Urbanization*, Vol. 4, No. 2, pages 121–130 and Wackernagel, Mathis and William Rees (1995), *Our Ecological Footprint: Reducing Human Impact on the Earth*, New Society Publishers, Gabriola (Canada), 176 pages. See also various papers in *Environment and Urbanization*, Vol 18, No 1, 2006, discussing the use of this concept.

footprints, will be a key factor underpinning increasing concentrations of greenhouse gases in the atmosphere, and thus a key cause of the very serious direct and indirect costs this will bring.¹⁸²

5. City governments that buck these tendencies

All the above may be taken to imply insuperable problems for expanding cities, their regions and the global environment. But Box 5 highlights how cities actually have large potential advantages for ensuring universal provision of infrastructure and services, keeping down waste levels, re-using waste streams and de-linking a high quality of life from high levels of resource consumption (and greenhouse gas emissions). That cities have economies of scale, proximity and agglomeration that bring substantial benefits for most businesses is well known¹⁸³; less discussed are the economies of scale and proximity for public goods and services or the *dis*-economies caused by poor urban management.¹⁸⁴

Box 5: Potential economies of scale and proximity for cities

The high densities and large population concentrations in cities usually lower the costs per household and per enterprise for the provision of infrastructure (all-weather roads and paths, piped water, sewers, drains, electricity) and services (including day care, all forms of schools and health care, and emergency services). The concentration of industries reduces the unit cost of making regular checks on plant and equipment safety, as well as on occupational health and safety, pollution control and the management of hazardous wastes. There are also economies of scale or proximity for reducing the risk of most disasters, and generally a greater capacity among city dwellers to pay for these, or at least to contribute towards the costs.

Cities also have many potential advantages for reducing resource use and waste. For instance, the close proximity of so many water consumers gives greater scope for recycling or directly re-using wastewaters. With regard to transport, cities have great potential for limiting the use of motor vehicles (and thus also the associated use of fossil fuels, and generation of air pollution and greenhouse gases). This might sound contradictory, as most large cities have problems with congestion and motor-vehicle-generated air pollution. But cities should enable many more journeys to be made by walking or bicycling, and they make a greater use of public transport and a high-quality service more feasible. Many of the most prosperous European cities, with among the world's highest quality of life, have one-fifth of the gasoline use of the USA's less compact, more car-dependent cities.¹⁸⁵

Cities concentrate populations in ways that usually reduce the demand for land relative to population. Valuable agricultural land might be lost to urban expansion, but in most nations the area taken up by cities and towns is less than 1 per cent of their total surface area. The concentration of people in cities can increase their ability to be fully involved in electing governments at local and city level, and to take an active part in decisions and actions within their own district or neighbourhood.

Most of the urban problems described in the previous section reflect not the inherent characteristics of cities but the limitations in their governance structures. However, there are many examples of innovation and better practice from low- and middle-income nations where the need for improved governance is most evident, which give clues on how current problems can be tackled. Many come from local initiatives that arise from more competent and democratic urban governments in nations where decentralization programmes have given more power and resources to such governments. Many others come from innovative local civil-society groups – usually a combination of grassroots organizations and

¹⁸² Parry, ML, OF Canziani, JP Palutikof, PJ van der Linden and CE Hanson (editors) (2007), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, UK, 912 pages.

¹⁸³ See, for instance, Montgomery, Stren, Cohen and Reed, 2003, op. cit.

¹⁸⁴ See, for instance, Kessides, 2006, op. cit. for a discussion of this for sub-Saharan Africa.

¹⁸⁵ Newman, Peter (1996), "Reducing automobile dependence", *Environment and Urbanization*, Vol. 8, No. 1, April, pages 67–92.

local NGOs – and increasingly from partnerships that these groups form with local governments, which in turn contributes to more competent and democratic local governments.¹⁸⁶

Some cities that have grown rapidly in the last 50 years have avoided most of the problems noted above. For instance, Curitiba and Porto Alegre in Brazil have both grown very rapidly in recent decades: Porto Alegre from under half a million inhabitants in 1950 to around 3.5 million in its metropolitan area today; Curitiba from around 150,000 in 1950 to 2.5 million in its metropolitan area. Both have high-quality living environments and innovative environmental policies (including Curitiba's much-admired public transport system, based on express busways and feeder buses,¹⁸⁷ which has encouraged comparable systems in other cities). Citizens in Porto Alegre enjoy an average life expectancy and many indicators of environmental quality that are comparable to cities in West Europe and North America – and also a city government that during the 1990s was well known for its commitment to supporting citizen participation, greater government accountability and good public health and environmental management.¹⁸⁸

Two kinds of innovation need highlighting. The first is a local government programme of action and support for community initiatives within a plan that has been developed involving all groups within the city. Many cities have developed local environmental plans, including many Local Agenda 21s in response to the guidelines in Agenda 21, the “action plan” on sustainable development that most of the world's governments endorsed at the United Nations Earth Summit in 1992. Unlike conventional city plans developed by city planning offices or external consultants, many of these local environmental plans have sought a broader consensus among all groups (or stakeholders) within the city on plan priorities, and more fully involve stakeholders in planning, implementation and monitoring. Through these, many cities have developed long-term environmental programmes, which combine attention to addressing environmental health problems and improving housing conditions within the city with better environmental management of the city's (and the wider region's) natural resources – for instance, the Bioplan developed in Manizales in Colombia¹⁸⁹ and the environmental plans in the Peruvian city of Ilo.¹⁹⁰ Manizales also developed an acclaimed public information system, the “environmental traffic lights”, through which environmental conditions and trends in all its neighbourhoods are regularly measured and displayed.¹⁹¹

Porto Alegre integrated a wide-ranging environmental management policy into its participatory budgeting but rooted it in a comprehensive regional environmental analysis.¹⁹² Many cities in Europe have also shown how Local Agenda 21s can combine an attention to local needs with regional and global responsibilities (including a lower draw on planetary resources and waste-assimilation capacities). They show how measures can be taken to make local governments and businesses develop the habit of responding to the local needs identified in participatory consultations – no easy task for any large institution.¹⁹³ Local governments can also demonstrate an independence when national government

¹⁸⁶ D'Cruz, Celine and David Satterthwaite (2005), *Building Homes, changing official approaches: The work of Urban Poor Federations and their contributions to meeting the Millennium Development Goals in urban areas*, Poverty Reduction in Urban Areas Series, Working Paper 16, IIED, London, 80 pages.

¹⁸⁷ Rabinovitch, 1992, op. cit.

¹⁸⁸ Menegat, 2002, op. cit.

¹⁸⁹ Velasquez, Luz Stella (1998), “Agenda 21; a form of joint environmental management in Manizales, Colombia”, *Environment and Urbanization*, Vol. 10, No. 2, pages 9–36.

¹⁹⁰ López Follegatti, Jose Luis (1999), “Ilo: a city in transformation”, *Environment and Urbanization*, Vol. 11, No. 2, October, pages 181–202; also Boon, Ronald GJ, Nancy Alexaki and Herrera Becerra (2001), “The Ilo Clean Air Project: a local response to industrial pollution control in Peru”, *Environment and Urbanization*, Vol. 13 No. 2, October, pages 215–232.

¹⁹¹ Velasquez, 1998, op. cit.

¹⁹² Menegat, 2002, op. cit.; also Menegat, Rualdo (main coordinator) (1998), *Atlas Ambiental de Porto Alegre*, Universidade Federal do Rio Grande do Sul, Prefeitura Municipal de Porto Alegre and Instituto Nacional de Pesquisas Espaciais, Porto Alegre, 228 pages.

¹⁹³ Roberts, Ian (2000), “Leicester environment city: learning how to make Local Agenda 21, partnerships and

provides no lead. For instance, many cities in the United States with elected governments have committed themselves to reducing greenhouse gas emissions – despite the US government’s blocking of any internationally agreed programme to do so. A link between effective local democracy and a more effective meeting of local needs is not surprising; what is perhaps more surprising and encouraging is the number of examples of democratic local governments and the citizens within their jurisdictions agreeing to measures to address global problems including reducing their cities’ ecological footprints, and what this implies in terms of reducing greenhouse-gas emissions.

The second kind of innovation that needs highlighting is the sustained city programmes to tackle the backlog in investment in infrastructure and services in the poorer and worst-served areas of cities and to support ways in which lower-income households can get better-quality housing. This comes under many names and many forms, including regeneration, upgrading and community development. Many cities in low- and middle-income nations where the backlog is largest have had major “upgrading” programmes to improve provision for water, sanitation, drainage and garbage collection in inner-city tenement districts and in squatter settlements – often with programmes to improve schools and health care too. Initially, these were seen as one-off projects in particular “targeted” neighbourhoods; now there is a recognition that city and municipal governments need the capacity and competence to support continuous upgrading programmes throughout the city, working in partnership with their inhabitants.¹⁹⁴ This recognition can extend up to central government – for instance, the government of Thailand set up a special fund in 1992, on which community organizations can draw, that has supported a large and diverse range of upgrading programmes and this subsequently expanded and extended to support city-wide programmes in many cities.¹⁹⁵

It is difficult to generalize about innovations that stretch from something as large as Barcelona’s regeneration programme to support for neighbourhood improvement programmes by the municipality of Ilo (in part because of its very small budget),¹⁹⁶ except to say that there are core principles of “good governance” underpinning them. This often includes an eye for new opportunities that an increasingly globalized world economy can bring to a particular city. Many of the more successful regeneration programmes have also recognized that they must support and celebrate their own city’s culture. But this eye for international investment also needs to be tempered with realism; many city authorities have invested heavily in the infrastructure and facilities that were meant to attract international investment, but with few results.¹⁹⁷

Both effective Local Agenda 21s and sustained upgrading programmes are often underpinned by stronger local democracy, as the introduction of elected mayors and councillors over the last 10–20 years has helped make many city governments more accountable and responsive to their citizens. Several nations have had new constitutions or important constitutional amendments that make explicit the new powers and responsibilities of local governments – including Brazil, Colombia and India. Brazil has probably

participation deliver”, *Environment and Urbanization*, Vol. 12, No. 2, October, pages 9–26; also Lafferty, William M and Katarina Eckerberg (editors) (1998), *From the Earth Summit to Local Agenda 21: Working Towards Sustainable Development*, Earthscan, London, 280 pages.

¹⁹⁴ See, for instance, Budds, Jessica with Paulo Teixeira and SEHAB (2005), “Ensuring the right to the city: pro-poor housing, urban development and land tenure legalization in São Paulo, Brazil”, *Environment and Urbanization*, Vol. 17, No. 1, pages 89–114.

¹⁹⁵ Boonyabancha, Somsook (1999), “The Urban Community Environmental Activities Project, Thailand”, *Environment and Urbanization*, Vol. 11, No. 1, April, pages 101–115; Boonyabancha, Somsook (2005), “Baan Mankong; going to scale with ‘slum’ and squatter upgrading in Thailand”, *Environment and Urbanization*, Vol. 17, No. 1, pages 21–46.

¹⁹⁶ Follegatti, 1999, op. cit.

¹⁹⁷ See Douglass, Mike (2002), “From global intercity competition to cooperation for livable cities and economic resilience in Pacific Asia”, *Environment and Urbanization*, Vol. 14, No. 1, April, pages 53–68.

gone further than any other nation in developing new national institutions to support more effective urban programmes.¹⁹⁸

But the innovations powered by more effective local democracies are not only the result of elected mayors and councillors. Indeed, they are often far more the result of citizen groups being able to organize, make demands and undertake their own programmes. In a growing number of countries, federations formed by groups of the urban poor are demonstrating new ways of developing programmes that are transforming the lives of thousands of their member households – for instance, through negotiating upgrading, or developing new urban neighbourhoods. They have done so at unit costs that are far lower than those of government or international agency programmes. Many of their initiatives also recover some of their costs, with the money returned to fund further community-level programmes. Many of these urban poor federations have developed successful partnerships with supportive local governments – for instance in India, Thailand, Zimbabwe, Namibia, South Africa, Malawi and the Philippines.¹⁹⁹ In Mumbai and Pune, low-income communities have designed and built their own community-toilets that are of higher quality and much better managed than the previous government-managed ones, and that cost no more.²⁰⁰ But this required city governments to recognize the capacity of the community organizations and to adapt their structures to support them. In several cities in South Africa, there are many settlements developed by the South African Federation of the Urban Poor that have far better-quality housing than in government programmes, yet cost no more. Such federations of the urban poor are active in 15 nations and are emerging in several more.²⁰¹ They have even formed their own international umbrella organization to increase their capacity to change the policies of international agencies and support each other's efforts.²⁰²

If these kinds of innovations become more widespread, what might this imply for the urban trends discussed in the sections above? It certainly implies an urban future less dominated by very large cities, as they lose investment to better-governed smaller cities – one critical reason why Sao Paulo and Rio de Janeiro now have far fewer people than expected. Advanced telecommunications systems have also helped underpin more decentralized patterns of production (which also means more decentralized patterns of urban development) – except for the large cities that can adapt or are successful at retaining a role as command-and-control centres for global corporations and the producer services they require.²⁰³ What we do not know is whether the trend towards more decentralized urban patterns will manifest itself as huge sprawling urbanized regions or as networks of connected compact cities with well-managed surrounds. It also remains to be seen whether the smaller cities that have attracted new investments away from the likes of Mexico City, Sao Paulo, Beijing, Shanghai, New York and Kolkata will themselves become very large cities or, in turn, lose out to another generation of successful smaller cities.²⁰⁴

¹⁹⁸ Fernandes, Edesio (2007), “Implementing the urban reform agenda in Brazil”, *Environment and Urbanization*, Vol. 19, No. 1, pages 177–189.

¹⁹⁹ For an overview of the work of the federations, see d’Cruz and Satterthwaite, 2005, op. cit. For case studies of the work of different federations, see *Environment and Urbanization*, Vol. 13, No. 2, 2001 and Vol. 19, No. 2, 2007. See also Patel, Sheela and Diana Mitlin (2004), “Grassroots-driven development: the Alliance of SPARC, the National Slum Dwellers Federation and Mahila Milan” and Baumann, Ted, Joel Bolnick and Diana Mitlin (2004), “The age of cities and organizations of the urban poor: the work of the South African Homeless People’s Federation”, in Mitlin, Diana and David Satterthwaite (editors), *Empowering Squatter Citizen; Local Government, Civil Society and Urban Poverty Reduction*, Earthscan Publications, London; Weru 2004, op. cit.; and Yu, Sandra and Anna Marie Karaos (2004), “Establishing the role of communities in governance: the experience of the Homeless People’s Federation Philippines”, *Environment and Urbanization*, Vol. 16, No. 1, pages 107–120.

²⁰⁰ Burra, Sundar, Sheela Patel and Tom Kerr (2003), “Community-designed, built and managed toilet blocks in Indian cities”, *Environment and Urbanization*, Vol. 15, No. 2, pages 11–32.

²⁰¹ See references in note 199.

²⁰² Slum/Shack Dwellers International; see www.sdinet.org.

²⁰³ Sassen, 1994, op. cit.

²⁰⁴ See Bourne, 1995, op. cit. for a discussion of this in relation to the United States.

It is tempting to think that perhaps there is an “ideal” city size, but the quality of a city depends more on the quality of its governance than on its size. And for whom is the “ideal”? Cities of a size that maximizes profits for companies and corporations are not necessarily ideal for their inhabitants. Clearly, large cities with high levels of private automobile use generate more intractable problems for congestion than smaller cities, especially if little provision is made to encourage people to walk, bicycle or use public transport. Successful large cities have particular problems in ensuring that good-quality housing is available and affordable to low-income groups. But few people who have spent time in Paris, London or New York (or Rio de Janeiro, Buenos Aires, Bangkok, Istanbul or Mumbai) can deny that these have attractions that smaller cities lack. Large cities depend on large resource inputs, but the availability of resources varies so much from place to place (as do the efficiencies with which they are used) that the ideal size from this perspective will also vary from place to place. Rather than debate what constitutes an ideal city size, it is more important to have effective, democratic local governments within national frameworks that ensure that each city does not draw too heavily on local and global resources and waste-assimilation capacities. Doing so may even surprise us, with some of the world’s largest cities also performing best in terms of quality of life, efficient resource use, low waste volumes and low greenhouse-gas emissions per person.

6. How urban is the future?

The world will certainly be more urbanized in 10–15 years time, and will have more large cities, including more mega-cities. But most nations will certainly have fewer urban dwellers than has been suggested by many projections made in the last 20–30 years. Most cities will also be considerably smaller than anticipated.

On large cities and mega-cities. There are good grounds for questioning whether a large proportion of the world’s urban population will ever live in cities of more than 5 million or more than 10 million inhabitants. This is for two reasons. First, most national economies are unlikely ever to be able to sustain cities of this size; the fact that most of the world’s largest cities are concentrated in the largest national economies was discussed above. The second reason is that in most high-income nations, and many middle- and low-income nations, more dispersed patterns of urban development are evident. It is no longer the largest cities that attract much of the new investment. In addition, in high-income nations and some high-income regions in middle-income nations, much of the rural population, in effect, consists of urbanized rural dwellers. They receive the infrastructure and services that used to be associated only with urban centres, most do not work in agriculture and many work in urban centres (or telecommute, working with urban-based enterprises), so a growing proportion of rural dwellers are urbanized in their lifestyles and occupations and in the services received, but still classified as rural. This helps to explain why many high-income nations with 95–99 per cent of their economically active population working in industry and services can still have 15–30 per cent of their population living in rural areas. It also helps to explain why so many high-income nations had very small increases in their levels of urbanization between 1970 and 2000, despite economic growth and a declining importance of agriculture within their GDP. The growth in the number of “rural” dwellers who work in urban areas is also evident around major cities in some low- and middle-income groups, and is likely to have growing significance in many nations.

An increasingly urbanized planet? There are grounds for questioning whether urbanization levels will continue to rise in virtually all low- and middle-income nations. For instance, sub-Saharan Africa will sustain a long-term trend towards increasingly urbanized populations only if most of its more populous nations have greater economic success than they had during the 1990s. There is also an interesting critique of the UN model for creating projections of urban populations up to 2030, which suggests that

these overstate the likely increases in levels of urbanization.²⁰⁵ However, perhaps it is more important to caution on the validity of making such projections rather than suggest changes in the methods used to do so. The key influence on any low-income nation's future level of urbanization is its economic performance, and especially so for those with relatively low levels of urbanization. Globally, it will be the economic performance of the world's more populous nations with currently low levels of urbanization that will be the main influence on how urbanized the world becomes.

However, for global figures, it might need only India and China to sustain high economic growth rates for the next 15–20 years within a world economy that continues to grow for the world to become more urban than anticipated. The world would also be a lot more urbanized if official statistics for China's urban population included all those living and working in urban centres, or if India reclassified its large villages as urban centres. And, as discussed above, the world could acquire several hundred million more urban dwellers overnight if India or China were to change their definitions of urban centres to those used by nations such as Peru and Sweden.²⁰⁶ Thus, there is no reliable basis for predicting future levels of urbanization globally.

The inaccuracy of many urban projections. It has long been common practice to make projections for future populations of nations, regions and the world far into the future. It then became common to make comparable projections for future urban populations or for future populations for specific cities.²⁰⁷ But if changes in the levels of urbanization for low- and middle-income nations are heavily influenced by their economic performance (or sometimes by political factors), this weakens the validity of such projections. If projections are based on extrapolating past growth trends, they must assume that the economic (or political) underpinning of urbanization in the past one or two decades will not change. Few economists will predict the likely economic performance of any nation 20–30 years into the future. But projections for increases in nations' levels of urbanization 20–30 years ahead are still common.

The basis for making projections for city populations far into the future is even more uncertain. Obviously, changes in any city's population will be influenced by that city's economic performance but

²⁰⁵ Bocquier, Philippe (2005), "World Urbanization Prospects: an alternative to the UN model of projection compatible with the mobility transition theory", *Demographic Research*, Vol. 12, Article 9, pages 197–236; downloaded from <http://www.demographic-research.org/Volumes/Vol12/9/12-9.pdf>.

²⁰⁶ At least up to its 1990 census, urban areas in Sweden were built-up areas with at least 200 inhabitants and usually not more than 200 metres between houses (according to the administrative divisions of 2003); for Peru, urban centres were populated centres with 100 dwellings or more grouped contiguously and administrative centres of districts; see United Nations, 2006, op. cit. Using these definitions in China or India would make both countries predominantly urban.

²⁰⁷ See for instance: United Nations, 1975, op. cit.; United Nations (1980), *Urban, Rural and City Population, 1950–2000, as assessed in 1978*, ESA/P/WP.66, June, New York, 38 pages; United Nations (1980), *Patterns of Urban and Rural Population Growth*, Population Studies No 68, ST/ESA/SER.A/68, New York; United Nations (1985), *Estimates and Projections of Urban, Rural and City Populations 1950–2025: the 1982 Assessment*, ST/ESA/SER.R/58, New York; United Nations, 1987, op. cit.; United Nations (1991), *World Urbanization Prospects 1990; Estimates and Projections of Urban and Rural Populations and of Urban Agglomerations*, United Nations, ST/ESA/SER.a/121, New York, 223 pages; United Nations (1993), *World Urbanization Prospects 1992; Estimates and Projections of Urban and Rural Populations and of Urban Agglomerations*, Department of Economic and Social Information and Policy Analysis, ST/ESA/SER.A/136, United Nations, New York, 164 pages; United Nations (1995), *World Urbanization Prospects: The 1994 Revision*, Population Division, Sales No: e.95.XIII.12, New York, 178 pages; United Nations (1998), *World Urbanization Prospects: The 1996 Revision*, Population Division, Department of Economic and Social Affairs, United Nations ST/ESA/SER.A/170, 190 pages; United Nations (2001), *World Urbanization Prospects: The 1999 Revision*, Population Division, Department of Economic and Social Affairs, ST/ESA/SER.A/194, 260 pages; United Nations (2002), *World Urbanization Prospects: The 2001 Revision*, Population Division, Department of Economic and Social Affairs, United Nations, ST/ESA/SER.A/216, New York, 321 pages; United Nations (2004), *World Urbanization Prospects: The 2003 Revision*, Population Division, Department for Economic and Social Affairs, ESA/P/WP.190, New York, 323 pages.

again, few economists will predict the likely economic performance of any city 20–30 years into the future. Perhaps it is possible to identify some low- and middle-income nations with good economic prospects for the next 20–30 years (and thus a high likelihood that they will urbanize) but it remains difficult to predict which cities within that nation will benefit and which will not. Perhaps urban change is too sensitive to economic, social and political change to justify population predictions more than one or two decades into the future. Certainly, many examples can be cited to caution against long-range projections based on extrapolating past trends far into the future. Extrapolating trends in urban population growth in China from 1949 to 1960 up to 2000, or in many sub-Saharan African nations in the decade after independence up to 2000 would have made these predominantly urban by now.

During the 1970s, there was an assumption that Kolkata (then called Calcutta) would grow far larger than proved to be the case; one estimate even suggested a population of 40–50 million by the year 2000²⁰⁸ compared to the census figure for 2001 which was 13.2 million. The projection was based on extrapolating Kolkata's rapid population growth for the 1930s to the 1950s far into the future. Such rapid rates of growth for these decades were largely due to an influx of refugees after the partition of India in 1947²⁰⁹ and to the population figures in 1941 being exaggerated for political reasons.²¹⁰ Projections for Kolkata's population were made with no consideration of the economic or political changes needed to make the city grow to this size, and perhaps also with very little knowledge of the city itself. There were studies available in the mid-1970s that pointed to all the economic and political reasons why this city was unlikely to grow rapidly.²¹¹

If in 1920, an estimate had been made for what Sao Paulo's population would be in 1960 based on extrapolating the population growth rates experienced between 1886 and 1916 (during which time its population grew ten-fold), this would have greatly over-stated its population, even though this was one of the world's most rapidly growing cities during these decades. Similarly, estimating Chicago's 1940 population in 1900 by extrapolating its population growth rates between 1870 and 1900 (when its population grew more than five-fold) would have greatly overstated its population. Some projections for city populations made in the 1970s and early 1980s produced almost surreal suggestions – for instance for Nairobi in Kenya to reach 18.9 million people by 2025.²¹² To risk stating the obvious, very large cities need very large economies to support them. Is it conceivable to think of Kenya evolving an economy that would attract sufficient investment to Nairobi for that city to grow as large as Sao Paulo or New York? The United Nations Population Division has considerably reduced the number of years over which it projects city populations. In the 1970s and 1980s, it often projected city populations 40–50 years into the future; the latest dataset projects city populations only 10 years ahead.

Most of the largest cities in the world in 2000 had several million fewer inhabitants that had been predicted 25 years previously (Table 11) and many had much smaller populations – including Mexico City, Sao Paulo, Kolkata, Karachi, Rio de Janeiro, Seoul, Tehran, Lima-Callao, London, Chennai and Kinshasa. Also, for obvious reasons, so did Baghdad. Several other cities in Table 11 appear to have several million fewer inhabitants in 2000 than was predicted 20–25 years earlier, but this may be more related to the boundaries used to produce the population statistics. For instance, Shanghai and Beijing appear to have much smaller populations in 2000 than those predicted 25 years earlier but it is uncertain

²⁰⁸ Brown, Lester (1974), *In the Human Interest*, WW Norton and Co., New York.

²⁰⁹ Roy, Dilip (1983), "The supply of land for the slums in Calcutta", in Angel, Shlomo, Raymon W Archer, Sidhijai Tanhiphat and Emiel A Wegelin (editors), *Land for Housing the Poor*, Select Publications, Singapore, pages 98–109.

²¹⁰ United Nations (1986), *Population Growth and Policies in Mega-Cities: Calcutta*, Population Policy Paper, Department of International Economic and Social Affairs, ST/ESA/SER.R/61, New York.

²¹¹ Row, Arthur T (1974), "Metropolitan problems and prospects – A study of Calcutta", in Jacobson, Leo and Ved Prakash (editors), *Metropolitan Growth: Public Policy for South and South East Asia*, Sage Publications.

²¹² United Nations (1982), *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1980 Assessment*, Department of International Economic and Social Affairs, United Nations, ST/ESA/SER.R/45, New York, 94 pages.

whether the official population figures for these cities reflect their actual populations. Jakarta and Bangkok appear to have much smaller populations in 2000 than that predicted 25 years previously but, for each of these cities, there are also population statistics for 2000 that correspond more closely to the earlier predictions, based on more extended boundaries. Some of the predictions made during the 1980s and early 1990s for the population of Tianjin and Lagos in 2000 were also far above what their population proved to be. Two cities proved to have much larger populations in 2000 than was predicted during the 1970s: Tokyo and Dhaka. For Dhaka, this obviously relates to its economic success; for Tokyo, the figure may be influenced by changes in boundaries. Guangzhou also had a much larger population in 2000 than was predicted.

Table 11: How projected city populations for 2000 changed between 1975 and the present

Urban Agglomerations	Population in UN 2005 revision	Last Census used	Projected population (million) for the year 2000 made by the UN in its assessment of:												
			1973-5	1978	1980*	1980	1982	1984-5	1988	1990	1992	1994	1996	1999	2003
Tokyo	34.5	2000	26.1	23.7	24.2	23.8	17.1	20.2	21.3	19.0	28.0	27.9	28.0	26.4	34.4
Ciudad de México (Mexico City)	18.1	2000	31.6	31.0	31.0	27.6	26.3	25.8	24.4	25.6	16.2	16.4	18.1	18.1	18.1
New York-Newark	17.9	2000	22.2	22.8	22.8	19.5	15.5	15.8	16.1	16.8	16.6	16.6	16.6	16.6	17.8
São Paulo	17.1	2000	26.0	25.8	25.8	21.5	24.0	24.0	23.6	22.1	22.6	17.8	17.7	17.8	17.1
Mumbai (Bombay)	16.1	2001	19.1	16.8	17.1	16.3	16.0	16.0	15.4	15.4	18.1	18.1	18.0	18.1	16.1
Shanghai	13.2	2000	19.2	23.7	22.7	25.9	13.5	14.3	14.7	17.0	17.4	17.2	14.2	12.9	12.9
Kolkata (Calcutta)	13.1	2001	19.7	16.4	16.7	15.9	16.6	16.5	15.9	15.7	12.7	12.7	12.9	12.9	13.1
Delhi	12.4	2001	13.2	11.5	11.7	11.2	13.3	8.2	12.8	13.2	11.7	11.7	11.7	11.7	12.4
Buenos Aires	11.9	2001	14.0	12.1	12.1	12.2	13.2	13.2	13.1	12.9	12.8	11.4	12.4	12.6	12.6
Los Angeles-Long Beach-Santa Ana	11.8	2000	14.8	13.9	14.2	12.1	11.2	11.0	10.9	13.9	13.2	13.1	13.1	13.1	11.8
Osaka-Kobe	11.2	2000	12.6	10.9	11.1	10.9	7.7	10.5	11.2	8.6	10.6	10.6	10.6	11.0	11.2
Jakarta	11.1	1990	16.9	15.7	16.6	14.3	12.8	13.3	13.2	13.7	13.4	14.1	9.8	11.0	11.0
Rio de Janeiro	10.8	2000	19.4	19.0	19.0	14.2	13.3	13.3	13.0	12.5	12.2	10.6	10.6	10.6	10.8
Al-Qahirah (Cairo)	10.4	1996	16.4	12.9	13.1	12.8	13.2	11.1	11.8	11.8	10.8	10.7	10.8	10.6	10.4
Dhaka	10.2	2001	5.9	10.5	9.7	10.2	11.2	11.2	11.3	12.2	11.5	10.2	11.0	12.3	10.2
Moskva (Moscow)	10.1	2002	10.6	9.0	9.1	10.1	10.4	11.1	9.0	9.8	9.3	9.3	9.3	9.3	10.1
Karachi	10.0	1998	15.9	11.6	11.8	11.4	12.2	12.0	11.6	11.7	11.7	12.1	12.0	11.8	10.0
Manila	10.0	2000	12.7	11.4	12.3	10.5	11.1	11.1	11.5	11.8	12.6	10.8	10.8	10.9	10.0
Soul (Seoul)	9.9	2000	18.7	13.7	14.2	13.7	13.5	13.8	13.0	12.7	12.9	12.3	12.2	9.9	9.9
Peking/Beijing	9.8	2000	19.1	20.9	19.9	22.8	10.8	11.2	11.5	14.0	14.4	14.2	12.0	10.8	10.8
Paris	9.7	1999	12.3	10.6	11.3	10.4	9.2	8.7	8.8	14.0	9.5	9.6	9.6	9.6	9.7
Istanbul	8.7	2000	8.3	10.8	11.2	10.9	11.9	3.3	3.3	9.5	9.3	9.3	9.4	9.5	8.7
Lagos	8.4	1991	9.4	7.7	4.5	8.3	8.3	12.5	12.9	13.5	13.5	13.5	13.4	8.7	
Chicago	8.3	2000	9.3	9.3	9.4	7.2	7.0	7.0	7.3	7.0	7.0	6.9	7.0	8.3	
London	8.2	2001	12.7	9.2	9.9	9.1	10.5	10.8	7.5	7.3	7.3	7.6	7.6	7.6	
Guangzhou	7.4	2000	4.7	5.7	5.5	4.4	4.5	4.8	4.7	4.7	5.2	3.9	3.9		
Teheran	7.0	1996	13.8	11.1	11.3	11.0	12.7	13.6	13.7	8.5	8.7	7.3	7.4	7.2	7.0
Bogota	7.0	1993	9.5	9.6	11.7	6.5	7.0	6.4	6.3	6.3	6.8	6.3	6.8		
Lima-Callao	6.8	1993	12.1	8.6	8.9	9.1	9.1	8.8	8.2	8.4	8.4	7.4	7.4	7.5	
Tianjin	6.7	2000	7.5	8.1	7.8	9.2	9.7	10.0	12.7	12.2	12.4	10.2	9.2	9.2	
Hong Kong	6.6	1986	5.5	5.9	5.2	6.4	6.4	6.1	6.0	5.9	5.7	6.1	6.9	6.8	
Chennai/Madras	6.4	2001	10.4	12.7	12.9	12.3	8.2	8.2	7.9	7.8	6.6	6.6	6.6	6.4	
Bangkok	6.3	2000	11.0	10.6	11.9	9.9	9.5	10.7	10.3	10.3	9.9	7.3	7.2	7.3	6.3
Bangalore	5.6	2001	5.4	4.5	4.6	8.0	8.0	7.7	8.2	5.5	5.5	5.6	5.6	5.6	
Hyderabad	5.4	2001	5.0	5.2	5.3	5.1	5.0	5.0	6.7	6.7	6.8	6.8	5.4		
Baghdad	5.2	1997	10.9	11.1	11.1	11.0	12.8	7.4	7.7	5.1	5.1	5.1	4.8	4.8	5.2
Leningrad	5.2	2002	6.1	5.2	5.3	5.9	5.8	5.4	5.4	5.1	5.1	5.1	5.1	5.2	
Kinshasa	5.0	1984	9.1	8.0	8.4	8.9	5.0	4.4	5.5	5.1	5.1	5.1	5.1	4.7	
Ahmedabad	4.4	2001	5.5	5.1	5.2	5.3	5.1	5.3	4.2	4.2	4.2	4.2	4.2	4.4	

NOTES: This reproduces and updates a table first published in Hardoy and Satterthwaite 1989, op. cit. See footnote 207 for the list of United Nations publications on which this draws.

* United Nations (1980), *Patterns of Urban and Rural Population Growth*, Population Studies No 68, ST/ESA/SER.A/68, New York, 175 pages. The other column headed 1980 is drawn from United Nations (1980), *Urban, Rural and City Population, 1950–2000, as assessed in 1978*, ESA/P/WP.66, June, New York, 38 pages.

Various other cities had much smaller populations in 2000 than had been predicted during the 1970s or 1980s. These include Caracas, Curitiba, Detroit, Faisalabad, Guadalajara, Milano, Santo Domingo and Surabaya. But it was in sub-Saharan Africa where predictions proved to be the most inaccurate and where many cities had less than half the population in 2000 than predictions made in the 1970s or early 1980s – for instance Accra, Addis Ababa, Blantyre, Cotonou, Dar es Salaam, Harare, Kampala, Lusaka, Maputo and Nairobi – and as noted above, Kinshasa. There may be several other major cities in this region that have much smaller populations than predicted but for which there are no recent census data.

In regard to why so many cities had much smaller populations than expected, the main reasons why are going to vary considerably between cities, although lower rates of natural increase than expected are likely to have been a factor in most instances. For many cities, it was related to a lack of economic success for the national economy; for some it was more related to their lack of economic success as other cities within their nation were more successful at attracting new investment.

The economic future of some cities is so uncertain that any projection is in doubt. Obviously, this applies to Baghdad and other Iraqi cities, and Kabul and other Afghan cities. Beirut's population has gone up and down over the last 30 years, in response to periods of civil strife, war or stability. Mogadishu in Somalia, and cities and smaller urban centres in the Democratic Republic of the Congo are similarly affected, but so too, albeit less dramatically, are many other cities.

There are two other major sources of uncertainty for many cities that will influence their future populations have been discussed already. The first is the impact of HIV/AIDS – which will be much influenced by the extent to which government policies encourage and support reduction in the risk of infection and ensure appropriate treatment for those who are infected. The second is the impact of climate change, and this will certainly influence the geography of development (and urban development).²¹³ It is probably an influence already, as some new or expanding enterprises are avoiding cities most at risk from extreme weather events and some existing enterprises may be moving or planning to move in the near future. But the scale of this influence is likely to increase dramatically, unless an effective global agreement is reached very soon that then succeeds in stopping and then reversing global greenhouse-gas emissions. Even with such an agreement, many cities will still face increased frequency and/or intensity of extreme weather events and/or additional constraints on freshwater supplies over the next few decades while most coastal cities will have problems with sea-level rise.²¹⁴

While the predictions made in the 1970s and 1980s for the populations of major cities often proved to be very inaccurate, the actual list of which cities would be the world's largest was not. The selection made in 1975 of the expected 50 largest urban agglomerations in the world by 2000 is not much different from the actual group in 2000 – although the rankings by population size and the projections for the actual populations were much less accurate. This says something about the economic and political forces that stop large cities declining dramatically – perhaps because they are national or state capitals, there are

²¹³ See, for instance, Revi, Aromar (2008), "Climate change risk: A mitigation and adaptation agenda for Indian cities", *Environment and Urbanization*, Vol. 20, No. 1, forthcoming; a pre-publication version of this can be downloaded at no charge from <http://www.iied.org/HS/topics/accc.html>

²¹⁴ See *Environment and Urbanization*, Vol. 19, No. 1, which has case studies of various cities, showing the risks they face from climate change; these can be accessed at <http://eau.sagepub.com>. See also Satterthwaite, David, Saleemul Huq, Mark Pelling, Hannah Reid and Patricia Lankao-Romero (2007), *Adapting to Climate Change in Urban Areas: The Possibilities and Constraints in Low- and Middle-income Nations*, IIED working paper, IIED, London, 107 pages. This can be downloaded at no charge from <http://www.iied.org/HS/topics/accc.html>; it can also be accessed direct at www.iied.org/pubs/display.php?o=10549IIED.

strong political and economic interests working in their favour or it is generally possible to modify the infrastructure and institutions there and attract new investment or retain existing enterprises. Of the 50 cities projected to have the largest populations in 2000, as predicted in 1975, only 9 were not within the world's 50 cities in the latest UN dataset, and one of these (Rhein-Ruhr) dropped out only because of changes in the way the UN classifies German cities.

Reviewing the list of cities that are among the 50 largest in 2000 that were not in the 1975 projections, several are the Chinese cities that have been key centres in this nation's very rapid economic growth since 1980 – for instance Guangzhou, Shenzhen and Chongqing. This is a good example of the difficulty of projecting city populations into the future; no one in 1975 with China still under Mao could have predicted the political and economic changes that were to occur, and the vast expansion in China's industrial and service (and thus urban) economy during the 1980s and 1990s. Similarly, in 1975, within the US, it would have been difficult to foresee the scale of population growth in the larger, more successful cities in the South. Some US cities proved to be much larger in 2000 than had been predicted – for instance Miami – and some much smaller – for instance Detroit. Again, this is best explained by Miami's economic success and Detroit's economic decline. And many rapidly growing cities in a considerable range of nations have been underpinned by their success in attracting automobile production and components away from Detroit.

In regard to other successful cities, who in 1975 would have predicted the emergence of Dubai as a major city, or the economic success that Hyderabad, Bangalore, Surat and Pune in India were to achieve up to 2000,²¹⁵ or the success of Curitiba and Porto Alegre in Brazil, or the many Mexican cities on or close to the border with the USA? Who in 1975 would have predicted the economic success of Dhaka – which is reflected in its growth, giving it a population in 2000 of 10.2 million, rather than the 5.9 million predicted for 2000 in the early 1970s.

7. Conclusions

The problems that arise from rapid urban growth are not inherent to cities or to rapid urban growth. Nor are these problems the result of a lack of knowledge of how to address them, or of a lack of precedents that show how to do so – although many city and municipal governments may lack trained personnel and the needed revenue base. The knowledge of how to install and maintain the infrastructure and services that underpin good-quality city environments has developed over the last 150 years – and cities have many economies of scale and proximity to support this. Over the last 30 years, the knowledge has been added of how to integrate this provision with a broader regional concern for sustainable resource use, good land-use management and ways to minimize wastes and pollution. The Local Agenda 21s noted above show how such concerns can be addressed in more democratic and inclusive ways. There is also convincing evidence that robust economies and a high quality of life can be de-linked from continuing increases in resource use, pollution, waste and greenhouse-gas emissions.²¹⁶

In practice, this needs competent, effective local governance structures – and in most cities and smaller urban centres in low- and middle-income nations, these are not evident. There are many factors constraining the development of appropriate governance structures, or limiting their possible actions to address problems of poverty or environmental degradation – especially where these raise costs and limit choices for politically powerful enterprises and populations. Good governance will set limits on where industries can locate and developers can build, and on which local water sources they can tap and which

²¹⁵ The general tendency of the UN projections for 2000 made in 1975 to overstate the actual populations meant that projections for some cities with rapid economic growth up to 2000, such as Pune and Bangalore, were close to actual figures.

²¹⁶ Von Weizsäcker, Ernst, Amory B Lovins and L Hunter Lovins (1997), *Factor Four: Doubling Wealth, Halving Resource Use*, Earthscan, London, 322 pages.

wastes they can dispose of. It will have measures to promote and support the needed supply of land for new housing with infrastructure and services. The latest information on global warming suggests that good governance will need to set limits on how much individuals can drive automobiles or fly (or on the amount of fossil fuel they can use).²¹⁷ Good city governance has to include actions to ensure that infrastructure and services are available to all within its boundaries, and that revenues are raised from those who benefit from this. It will ensure “the rule of law”, through which the rights and entitlements of everyone (including low-income groups) and “the public good” are protected, and that effective democratic processes are in place, including the values this implies, such as accountability to citizens and transparency in the generation and use of public resources. For urban areas, adaptation to the direct and indirect impacts of climate change also depends, perhaps more than anything else, on competent, capable urban governments that work with and are accountable to low-income groups. Initial analyses of climate-change related hazards and vulnerabilities for cities show how it is poorer groups who are more at risk and face larger impacts (for instance as their homes are in flood-plains with no storm drains and no early warning systems), as well as facing greater risk of loss for their assets, less possibilities of help or compensation and less adaptation possibilities such as moving to safer homes or settlements.²¹⁸

In high-income nations, urban dwellers have become so used to the web of urban-based institutions that provide these services that it is easy to forget their importance. It is taken for granted that water of drinking quality is piped to every home, with sanitation and electricity available 24 hours a day, and garbage collected regularly – with the costs representing only a small part of average incomes. In most high-income nations, there are schools, health centres and emergency services available to all. There are local politicians through whom to make demands and voice grievances. Legislation and courts protect citizens from eviction, discrimination, exploitation and pollution. There are safety nets for those who lose their jobs or fall sick, and pensions for retirement. There are lawyers, ombudsmen, consumer groups and watchdogs to whom people can turn if they feel they have been cheated. And all of this is possible because of local government institutions overseen by democratic structures. Even if private companies or non-profit institutions provide some services, the framework for provision and quality control is provided by local governments or local offices of national or provincial governments. While coverage for some services may be sub-standard, and some groups ill-served, the broad web of provision adequately serves the vast majority of city and small-town populations.

The problems associated with rapid urban growth in low- and middle-income nations can be addressed only through the development of a comparable web of accountable local institutions in cities. This is also needed to ensure that the investments and interventions of national governments, international agencies and private companies recognize, respond to and are accountable to local needs. This requires local institutions that are representative of local populations and inclusive, in the sense that they ensure that everyone’s views are represented and have influence. It requires local institutions with the knowledge and capacity to ensure a sustainable use of local resources and to ensure that basic infrastructure and services are available to all. These local institutions need the power and the legal basis to allow them to negotiate effectively with powerful external agencies or companies, even to question the proposals they put forward, and to hold these agencies or companies to account if they contravene agreements. Without such institutions, major projects or investments are profoundly undemocratic, because the populations in the areas where they take place have so little power to influence them.

One structural difficulty that all aid agencies and international development banks face is that they have no provision for formally including the views of their “clients” (low-income groups in “recipient

²¹⁷ Adger, Neil, Pramod Aggarwal, Shardul Agrawala et al. (2007), *Climate Change 2007: Impacts, Adaptation and Vulnerability: Summary for Policy Makers*, Working Group II Contribution to the Intergovernmental Panel on Climate Change; Fourth Assessment Report, IPCC Secretariat, WHO AND UNEP, Geneva; also Parry et al., 2007, op. cit.; see in particular the chapter on “Industry, settlement and society” by TJ Wilbanks, P Romero Lankao, M Bao et al.

²¹⁸ Satterthwaite et al., 2007, op. cit.

nations”) in their governance structures. The two billion people suffering extreme poverty have no vote in global institutions. In multilateral institutions, their government may have a vote (although in the most powerful institutions, most voting power is retained by high-income nations), but their governments rarely represent their views. They also have no vote in bilateral donor agencies or within the governments that supervise these agencies.

Effective local governance is more important in the lives of most people than good national or global governance (although achieving effective government institutions in each locality often requires changes in government at provincial/state, national and global levels). In addition, how are national governments and international agencies going to meet their “global” responsibilities without effective local government institutions as partners? For instance, it is difficult to see how biodiversity can be protected, malaria, AIDS and most other diseases reduced, and greenhouse-gas emissions kept down without effective and representative local governments. Most global environmental problems will be resolved only through the aggregate impact of actions undertaken by local governments – yet local governments are hardly ever given much consideration in global conferences and global action plans.

Given the key role of local governments in ensuring that both environment and development goals are met, it is surprising to find so little discussion of “local governance” within most discussions of sustainable development or how to meet global targets such as the Millennium Development Goals.²¹⁹ The “big” issues, such as greater equity, more justice (and protection for human rights), protecting key resources, reducing greenhouse gases, achieving greater democracy, reducing poverty, managing globalization and adapting to climate change, are still discussed without considering the local institutions needed to ensure progress in these areas. In addition, sustainable development has always been about moving towards the meeting of multiple goals and fashioning the mix that is most appropriate to each locality, undertaken in full knowledge of local resources and capabilities and the possibilities and constraints these provide. Thus, it requires forums and decision-making structures in each locality to allow this, where the decisions taken have citizen support – and where it seems that we must not only follow René Dubos’ suggestion to think globally and act locally, but also to think locally and act globally.

²¹⁹ For more discussion on this point, see Satterthwaite, David (2005), “Meeting the MDGs in urban areas; the forgotten role of local organizations”, *Journal of International Affairs*, Vol. 58, No. 2, pages 87–112.

ANNEXE: City tables

This annexe has three tables:

- Table 12: The world's 100 largest cities, 2000
- Table 13: The world's 100 fastest-growing large cities, 1950–2000
- Table 14: The world's 100 slowest-growing large cities, 1950–2000

Some words of caution are needed with regard to interpreting the data they contain.

With the exception of population statistics for 1800 and 1900, all population figures are drawn or derived from data from United Nations (2006), *World Urbanization Prospects: the 2005 Revision*, United Nations Population Division, Department of Economic and Social Affairs, CD-ROM Edition – Data in digital form (POP/DB/WUP/Rev.2005), United Nations, New York. Note should be made of earlier cautions in this paper regarding the accuracy of urban statistics for nations in which there have been few censuses and for which no recent census data are available. In each of the following tables, the date of the most recent census for which data were available is included.

For 1800 and 1900, data came from an IIED database with census data and estimates for city populations drawn from a great range of sources, including: Chandler, Tertius and Gerald Fox (1974), *3000 Years of Urban Growth*, Academic Press, New York and London; Chandler, Tertius (1987), *Four Thousand Years of Urban Growth: An Historical Census*, Edwin Mellen Press, Lampeter, UK, 656 pages; and Showers, Victor (1979), *World Facts and Figures*, John Wiley and Sons, Chichester, 757 pages. For Latin America, it also drew on a review of 194 published censuses held between 1850 and 1980.

Where no population statistic or estimate was found for 1800 or 1900, but a statistic was available within five years of these two dates, these were used – hence the headings “c.1800” and “c.1900”. Where no statistic was found but it was clear that the settlement existed, a “0” has been put in the column. The statistics for city populations for c.1800, and many statistics for c.1900, are estimates drawn from many different sources. Many may be inaccurate. But the point of including these in the tables is to show which of today's large cities and rapidly growing cities were already significant cities around 100 and 200 years ago.

Where a city has had more than one name during its history, the other names are listed. It is likely that many of the Chinese cities listed for which no population figure is given for c.1800 were already urban centres by this date. It can be difficult to examine urban change in China historically because many cities have had several different names, and what appears to be a new city actually has a considerable history, but under another city name.

Table 12: The world's 100 largest cities, 2000

In c.1800 or c.1900, where no statistic was found but it was clear that the settlement existed, a 0 is used.

URBAN CENTRE	COUNTRY	Population (thousand)				Annual average growth rate (%)		Average increment in population per year, 1950–2000 (thousand)	Date of last census available
		c.1800	c.1900	1950	2000	1950–2000	1990–2000		
Tokyo	Japan	492	1,497	11,275	34,450	2.3	0.6	464	2000
Ciudad de México (Mexico City)	Mexico	137	415	2,883	18,066	3.7	1.7	304	2000
New York-Newark	United States of America	60	4,242	12,338	17,846	0.7	1.0	110	2000
Sao Paulo	Brazil	0	240	2,334	17,099	4.1	1.5	295	2000
Mumbai (Bombay)	India	174	928	2,857	16,086	3.5	2.7	265	2001
Shanghai	China	100	619	6,066	13,243	1.6	4.9	144	2000
Kolkata (Calcutta)	India	200	1,085	4,513	13,058	2.1	1.8	171	2001
Delhi	India	125	209	1,369	12,441	4.5	4.2	221	2001
Buenos Aires	Argentina	43	813	5,098	11,847	1.7	1.2	135	2001
Los Angeles-Long Beach-Santa Ana	United States of America	0	102	4,046	11,814	2.2	0.8	155	2000
Osaka-Kobe	Japan	373	970	4,147	11,165	2.0	0.1	140	2000
Jakarta	Indonesia	92	115	1,452	11,065	4.1	3.8	192	1990
Rio de Janeiro	Brazil	43	967	2,950	10,803	2.6	1.2	157	2000
Al-Qahirah (Cairo)	Egypt	260	595	2,494	10,391	2.9	1.4	158	1996
Dhaka	Bangladesh	110	90	417	10,159	6.6	4.5	195	2001
Moskva (Moscow)	Russian Federation	238	1,120	5,356	10,103	1.3	1.1	95	2002
Karachi	Pakistan	14	136	1,047	10,020	4.6	3.4	179	1998
Manila	Philippines	85	204	1,544	9,950	3.8	2.2	168	2000
Soul (Seoul)	Republic of Korea	190	201	1,021	9,917	4.7	-0.6	178	2000
Beijing (Peking)	China	1,100	1,100	4,331	9,782	1.6	2.9	109	2000
Paris	France	548	3,330	5,424	9,692	1.2	0.4	85	1999
Istanbul/Constantinople	Turkey	570	900	967	8,744	4.5	2.9	156	2000
Lagos	Nigeria	5	42	288	8,422	7.0	5.9	163	1991
Chicago	United States of America	4	1,717	4,999	8,333	1.0	1.2	67	2000
London	United Kingdom	1,117	6,586	8,361	8,225	0.0	0.7	-3	2001
Guangzhou, Guangdong (Canton)	China	800	585	1,491	7,388	3.3	6.5	118	2000
Tehran	Iran (Islamic Republic of)	15	204	1,041	6,979	3.9	0.9	119	1996
Santa Fé de Bogotá	Colombia	24	100	676	6,964	4.8	3.6	126	1993
Lima	Peru	53	130	973	6,811	4.0	1.6	117	1993
Tianjin	China	165	700	2,374	6,722	2.1	1.5	87	2000
Wuhan	China	185	450	1,311	6,662	3.3	5.7	107	2000
Hong Kong	China, Hong Kong SAR		284	1,682	6,637	2.8	1.6	99	1986
Chennai (Madras)	India	125	553	1,491	6,353	2.9	1.8	97	2001
Krung Thep (Bangkok)	Thailand	35	587	1,360	6,332	3.1	0.7	99	2000
Shenzhen	China			174	6,069	7.4	21.4	118	2000
Chongqing	China	218	620	1,680	6,037	2.6	6.8	87	2000
Bangalore	India	60	159	746	5,567	4.1	3.3	96	2001
Lahore	Pakistan	0	203	836	5,448	3.8	3.2	92	1998
Hyderabad	India	200	448	1,096	5,445	3.3	2.6	87	2001
Santiago	Chile	21	288	1,322	5,326	2.8	1.4	80	2002
Sankt Peterburg	Russian Federation	220	1,439	2,903	5,214	1.2	0.4	46	2002
Baghdad	Iraq	96	156	579	5,200	4.5	2.4	92	1997
Madrid	Spain	169	539	1,700	5,162	2.2	1.6	69	2001
Philadelphia	United States of America	69	1,418	3,128	5,160	1.0	0.9	41	2000
Kinshasa	Dem. Rep. of the Congo		5	202	5,042	6.6	3.3	97	1984
Miami	United States of America		2	622	4,946	4.2	2.2	86	2000
Toronto	Canada	1	208	1,068	4,747	3.0	2.2	74	1996
Belo Horizonte	Brazil	0	13	412	4,659	5.0	2.8	85	2000

Thành Phố Hồ Chí Minh (Ho Chi Minh City, formerly Saigon)	Viet Nam	35	160	1,213	4,621	2.7	1.5	68	1989
Shenyang (also Mukden before 1949)	China	180		2,091	4,599	1.6	-0.1	50	2000
Barcelona	Spain	110	552	1,809	4,548	1.9	1.0	55	2001
Ahmadabad (Ahmedabad)	India	89	186	855	4,427	3.3	3.1	71	2001
Dallas-Fort Worth	United States of America	0	43	866	4,172	3.2	2.6	66	2000
Sydney	Australia	3	478	1,690	4,078	1.8	1.2	48	2001
Boston	United States of America	25	1,075	2,551	4,049	0.9	1.7	30	2000
Singapore	Singapore	0	229	1,022	4,017	2.8	2.9	60	2000
Washington, D.C.	United States of America	8	278	1,298	3,949	2.3	1.6	53	2000
Al-Khartoum (Khartoum)	Sudan		55	183	3,949	6.3	5.3	75	1993
Chengdu	China	110	475	768	3,919	3.3	2.9	63	2000
Detroit	United States of America	2	286	2,769	3,909	0.7	0.5	23	2000
Houston	United States of America		45	709	3,849	3.4	2.8	63	2000
Dongguan, Guangdong	China			379	3,770	4.7	8.1	68	2000
Hà Nội	Viet Nam	60	103	280	3,752	5.3	1.8	69	1989
Xi'an, Shaanxi	China	224	1,000	708	3,725	3.4	2.6	60	2000
Guadalajara	Mexico	19	126	403	3,697	4.5	2.1	66	2000
Pusan	Republic of Korea		17	948	3,673	2.7	-0.3	55	2000
Pune (Poona)	India	100	153	581	3,655	3.7	4.2	61	2001
Rangoon (Yangon)	Myanmar	30	235	1,302	3,634	2.1	2.3	47	1983
Ar-Riyadh (Riyadh)	Saudi Arabia		30	111	3,567	7.2	4.4	69	2004
Atlanta	United States of America	0	90	513	3,542	3.9	5.0	61	2000
Al-Iskandariyah (Alexandria)	Egypt	4	320	1,037	3,506	2.5	1.4	49	1996
Pôrto Alegre	Brazil	4	74	488	3,505	4.0	1.8	60	2000
Nanjing, Jiangsu (formerly Nanking)	China	220	270	973	3,477	2.6	2.9	50	2000
Montréal	Canada	16	267	1,343	3,471	1.9	1.0	43	1996
Bandung	Indonesia		27	511	3,448	3.9	3.4	59	1990
Haerbin (Harbin)	China		20	1,012	3,444	2.5	1.4	49	2000
Melbourne	Australia	4	485	1,332	3,433	1.9	1.0	42	2001
Berlin	Germany	172	2,707	3,338	3,392	0.0	-0.1	1	2003
Roma (Rome)	Italy	153	438	1,884	3,385	1.2	-0.2	30	2001
Chittagong	Bangladesh	0	22	290	3,271	5.0	4.9	60	2001
Monterrey	Mexico	11	85	356	3,267	4.5	2.3	58	2000
San Francisco-Oakland	United States of America	0	439	1,855	3,236	1.1	0.9	28	2000
Recife	Brazil	25	217	661	3,230	3.2	1.8	51	2000
P'yongyang	DP Republic of Korea	0	74	516	3,194	3.7	2.6	54	1993
Ankara	Turkey	20	32	281	3,179	5.0	2.2	58	2000
Athinai (Athens)	Greece	12	129	1,783	3,179	1.2	0.3	28	2001
Nagoya	Japan	100	244	992	3,122	2.3	0.6	43	2000
Abidjan	Cote D'Ivoire			65	3,055	8.0	3.8	60	1998
Dar-el-Beida (Casablanca)	Morocco	0	20	625	3,043	3.2	1.3	48	2004
Milano (Milan)	Italy	135	491	1,883	2,985	0.9	-0.3	22	2001
Salvador	Brazil	100	206	403	2,968	4.1	2.4	51	2000
Phoenix-Mesa	United States of America		6	221	2,934	5.3	3.8	54	2000
Guiyang	China	0	100	675	2,929	3.0	5.8	45	2000
Fortaleza	Brazil	0	89	264	2,875	4.9	2.6	52	2000
Caracas	Venezuela	31	98	676	2,864	2.9	0.3	44	2001
Dalian (also Dairen, Talien, Port Arthur).	China		54	678	2,858	2.9	1.5	44	2000
Medellin	Colombia	6	55	376	2,814	4.1	2.7	49	1993
Zibo (also Boshan, Tzupo, Poshan, Tzepo, Tzucheng)	China	0	0	1,453	2,806	1.3	1.2	27	2000
El Djazaïr (Algiers)	Algeria	73	137	516	2,754	3.4	3.7	45	1998
Tel Aviv-Yafo (Tel Aviv-Jaffa)	Israel	0	21	418	2,752	3.8	3.1	47	1983

Table 13: The world's 100 fastest-growing large cities, 1950–2000

These are the 100 cities that had 750,000 or more inhabitants in 2000 and that had the fastest annual average growth rates, 1950–2000 – hence the specification in the title that this is the 100 fastest-growing *large* cities. In c.1800 or c.1900, where no statistic was found but it was clear that the settlement existed, a 0 is used.

URBAN CENTRE	COUNTRY	Population (thousand)				Annual average growth rate (%)		Average increment in population per year, 1950–2000 (thousand)	Date of last census available
		c.1800	c.1900	1950	2000	1950–2000	1990–2000		
Karaj	Iran (Islamic Republic of)	0		10	1,063	9.8	4.4	21	1996
Brasilia	Brazil			36	2,746	9.1	4.0	54	2000
Monrovia	Liberia			15	776	8.2	3.8	15	1984
Abidjan	Cote D'Ivoire			65	3,055	8.0	3.8	60	1998
Dubayy (Dubai)	United Arab Emirates		10	20	938	8.0	7.1	18	2002
Faridabad	India	0	0	22	1,018	8.0	5.6	20	2001
Durg-Bhilainagar	India	0	0	20	905	7.9	3.1	18	2001
Kaduna	Nigeria			28	1,220	7.8	2.4	24	1991
Conakry	Guinea		7	31	1,222	7.6	3.2	24	1996
Las Vegas	United States of America			35	1,335	7.6	6.5	26	2000
Yaoundé	Cameroon		0	32	1,192	7.5	4.7	23	1987
Shenzhen	China			174	6,069	7.4	21.4	118	2000
Ulsan	Republic of Korea			29	1,011	7.4	4.2	20	2000
Lusaka	Zambia			31	1,073	7.3	3.6	21	1990
Kolwezi	Dem. Rep. of the Congo			31	1,047	7.3	3.9	20	1984
Ar-Riyadh (Riyadh)	Saudi Arabia		30	111	3,567	7.2	4.4	69	2004
Lomé	Togo			33	1,053	7.2	5.4	20	1981
Goiânia	Brazil			53	1,608	7.1	3.6	31	2000
Sana'a'	Yemen	40	59	46	1,365	7.0	7.7	26	2004
Lagos	Nigeria	5	42	288	8,422	7.0	5.9	163	1991
Khulna	Bangladesh	0	10	45	1,264	6.9	3.5	24	2001
Toluca de Lerdo	Mexico	7	23	54	1,420	6.8	5.5	27	2000
Tegal	Indonesia			30	774	6.7	3.5	15	1990
Irbil (Erbil, Arbil)	Iraq			30	773	6.7	3.7	15	1987
Dar es Salaam	United Rep. of Tanzania		20	84	2,116	6.7	4.9	41	2002
Santa Cruz	Bolivia	6	16	42	1,054	6.7	5.5	20	2001
Kinshasa	Dem. Rep. of the Congo		5	202	5,042	6.6	3.3	97	1984
Kano	Nigeria	30	40	107	2,658	6.6	2.4	51	1991
Suzhou, Anhui	China	0	0	61	1,509	6.6	19.3	29	2000
Dhaka	Bangladesh	110	90	417	10,159	6.6	4.5	195	2001
Shangqiu	China			58	1,349	6.5	18.6	26	2000
Ghaziabad	India			42	928	6.4	6.6	18	2001
Ouagadougou	Burkina Faso		8	35	771	6.4	2.6	15	1996
Tijuana	Mexico		0	60	1,297	6.3	5.5	25	2000
Al-Khartum (Khartoum)	Sudan		55	183	3,949	6.3	5.3	75	1993
Jiddah (Jeddah)	Saudi Arabia	20	25	119	2,509	6.3	3.7	48	2004
Benin City	Nigeria	15		46	937	6.2	2.4	18	1991
Nanyang, Henan	China			75	1,512	6.2	15.0	29	2000
Chandigarh	India			40	791	6.2	3.4	15	2001
N'ampo	Dem. People's Republic of Korea			52	1,016	6.1	5.8	19	1993
Al Kuwayt (Kuwait City)	Kuwait		20	81	1,549	6.1	1.1	29	1995
Guwahati (Gauhati)	India	0	12	43	797	6.0	3.5	15	2001
Zhuhai	China			44	809	6.0	9.3	15	2000
Zaria	Nigeria		40	41	752	6.0	2.4	14	1991
Banghazi (Benghazi)	Libyan Arab Jamahiriya			53	945	5.9	4.4	18	1984
Tarabulus (Tripoli)	Libyan Arab Jamahiriya	15	42	106	1,877	5.9	2.3	35	1984
Valencia	Venezuela	7	28	108	1,893	5.9	5.3	36	2001
Muqdisho (Mogadishu)	Somalia	4	7	69	1,189	5.9	2.3	22	1975
Maiduguri	Nigeria			44	758	5.9	2.4	14	1991
Seongnam	Republic of Korea			54	911	5.8	5.5	17	2000

Luanda	Angola	8	20	138	2,322	5.8	4.0	44	1970
Grande Vitória	Brazil	0	12	85	1,398	5.8	2.9	26	2000
Nairobi	Kenya		5	137	2,233	5.7	4.9	42	1999
Querétaro	Mexico	35	34	49	798	5.7	3.6	15	2000
Curitiba	Brazil	0	96	158	2,494	5.7	3.1	47	2000
Nanchong (Nanchung)	China			109	1,712	5.7	10.7	32	2000
Al-Madinah (Medina)	Saudi Arabia	20	30	51	795	5.6	4.2	15	2004
Orlando	United States of America		2	75	1,165	5.6	2.7	22	2000
Manaus	Brazil	0	65	90	1,392	5.6	3.8	26	2000
Douala	Cameroon		23	95	1,432	5.6	4.4	27	1987
Campinas	Brazil	7	68	152	2,264	5.6	2.9	42	2000
Port Harcourt	Nigeria			58	863	5.5	2.4	16	1991
Dhanbad	India		12	71	1,046	5.5	2.7	20	2001
Teresina	Brazil			54	789	5.5	2.5	15	2000
Bhopal	India	0	77	100	1,426	5.5	3.1	27	2001
Luzhou	China			89	1,208	5.4	11.4	22	2000
Hà Noi	Viet Nam	60	103	280	3,752	5.3	1.8	69	1989
Aurangabad	India	70		65	868	5.3	4.3	16	2001
Port-au-Prince	Haiti	15	60	133	1,766	5.3	4.5	33	1982
Phoenix-Mesa	United States of America		6	221	2,934	5.3	3.8	54	2000
Faisalabad	Pakistan		9	168	2,140	5.2	3.5	39	1998
Norte/Nordeste Catarinense	Brazil			64	815	5.2	3.1	15	2000
Xinyang	China	0	0	94	1,195	5.2	15.9	22	2000
Suwon	Republic of Korea			74	932	5.2	4.0	17	2000
Amman	Jordan		0	90	1,132	5.2	2.9	21	1994
Bamako	Mali		3	89	1,110	5.2	4.1	20	1998
Visakhapatnam	India	20	41	105	1,309	5.2	2.5	24	2001
Mbuji-Mayi	Dem. Rep. of the Congo			70	843	5.1	3.4	15	1984
Kumasi	Ghana	40	3	99	1,187	5.1	5.5	22	2000
Maputo	Mozambique	0	6	92	1,095	5.1	3.5	20	1997
Brazzaville	Congo		5	83	986	5.1	3.4	18	1996
Mexicali	Mexico		0	66	771	5.0	2.4	14	2000
Kampala	Uganda			95	1,097	5.0	3.8	20	2002
Surat	India	130	119	234	2,699	5.0	6.3	49	2001
Mashhad	Iran (Islamic Republic of)	50	62	173	1,990	5.0	1.7	36	1996
Kabul	Afghanistan	80	100	171	1,963	5.0	3.2	36	1979
Asansol	India		15	93	1,065	5.0	3.9	19	2001
Maracay	Venezuela	0	4	89	1,015	5.0	2.9	19	2001
Qom	Iran (Islamic Republic of)			78	888	5.0	3.6	16	1996
Ankara	Turkey	20	32	281	3,179	5.0	2.2	58	2000
Belo Horizonte	Brazil	0	13	412	4,659	5.0	2.8	85	2000
Chittagong	Bangladesh	0	22	290	3,271	5.0	4.9	60	2001
Ulaanbaatar (Ulan Bator)	Mongolia	0		70	764	4.9	2.9	14	2000
Riverside-San Bernardino	United States of America		8	139	1,516	4.9	2.6	28	2000
Fortaleza	Brazil	0	89	264	2,875	4.9	2.6	52	2000
Tegucigalpa	Honduras	0	24	73	793	4.9	3.2	14	2001
Cucuta	Colombia			70	760	4.9	3.7	14	1993
León de los Aldamas	Mexico	0	118	123	1,293	4.8	3.0	23	2000
Nanning	China	0	25	167	1,743	4.8	4.2	32	2000
Taejon	Republic of Korea		0	131	1,362	4.8	2.8	25	2000

Table 14: The world's 100 slowest-growing large cities, 1950–2000

Note: These are the 100 cities that had 750,000 or more inhabitants in 2000 and that had the slowest annual average growth rates, 1950–2000. In c.1800 or c.1900, where no statistic was found but it was clear that the settlement existed, a 0 is used.

URBAN CENTRE	COUNTRY	Population (thousand)				Annual average growth rate (%)		Average increment in population per year, 1950–2000 (thousand)	Date of last census available
		c.1800	c.1900	1950	2000	1950–2000	1990–2000		
Liverpool	United Kingdom	76	940	1,382	818	–1.0	–0.2	–11	2001
Glasgow	United Kingdom	85	1,015	1,755	1,171	–0.8	–0.4	–12	2001
West Yorkshire (Leeds)	United Kingdom	53	429	1,692	1,495	–0.2	0.3	–4	2001
København (Copenhagen)	Denmark	101	462	1,216	1,079	–0.2	–2.1	–3	1981
Manchester	United Kingdom	84	1,435	2,422	2,243	–0.2	–0.2	–4	2001
Newcastle upon Tyne	United Kingdom	36	615	909	880	–0.1	0.0	–1	2001
London	United Kingdom	1,117	6,586	8,361	8,225	0.0	0.7	–3	2001
Berlin	Germany	172	2,707	3,338	3,392	0.0	–0.1	1	2003
Birmingham	United Kingdom	72	1,248	2,229	2,285	0.0	–0.1	1	2001
Hamburg	Germany	130	895	1,602	1,715	0.1	0.4	2	2003
Buffalo	United States of America	0	352	899	977	0.2	0.2	2	2000
Budapest	Hungary	54	785	1,618	1,787	0.2	–1.1	3	2001
Montevideo	Uruguay	14	268	1,140	1,285	0.2	0.1	3	2004
Pittsburgh	United States of America	2	562	1,539	1,755	0.3	0.4	4	2000
Yongzhou	China			835	976	0.3	0.3	3	2000
Bruxelles-Brussel	Belgium	74	561	806	964	0.4	0.0	3	1981
Wien (Vienna)	Austria	231	1,698	1,787	2,158	0.4	0.3	7	2001
Praha (Prague)	Czech Republic	77	202	934	1,181	0.5	–0.2	5	2001
Cleveland	United States of America	1	382	1,392	1,789	0.5	0.6	8	2000
Lodz	Poland	1	314	608	799	0.5	–0.5	4	2002
Amsterdam	Netherlands	217	510	855	1,126	0.6	0.7	5	1960
Yueyang	China			673	918	0.6	–1.6	5	2000
Lille	France	55	289	723	1,007	0.7	0.5	6	1999
Hunjiang	China			553	772	0.7	0.7	4	1990
Xuanzhou	China			586	823	0.7	0.7	5	1990
Detroit	United States of America	2	286	2,769	3,909	0.7	0.5	23	2000
Palermo	Italy	146	306	594	855	0.7	0.1	5	1991
Huai'an (Ching-chiang, Hwaiyin, Huaiyin, Qingjiang)	China	70	0	829	1,198	0.7	0.7	7	2000
New York-Newark	United States of America	60	4,242	12,338	17,846	0.7	1.0	110	2000
München (Munich)	Germany	48	499	827	1,211	0.8	–0.1	8	2003
Xiantao	China			1,000	1,470	0.8	0.8	9	2000
Köln (Cologne)	Germany	41	437	656	966	0.8	0.1	6	2003
Yichun, Heilongjiang	China			554	816	0.8	–0.8	5	2000
Rotterdam	Netherlands	58	319	741	1,092	0.8	0.4	7	1960
St Louis	United States of America	6	614	1,407	2,081	0.8	0.7	13	2000
Napoli (Naples)	Italy	430	563	1,498	2,232	0.8	0.1	15	2001
Tianmen	China			1,073	1,609	0.8	0.8	11	2000

Fuyu, Jilin	China			682	1,025	0.8	0.8	7	1990
New Orleans	United States of America	8	287	664	1,009	0.8	-0.3	7	2000
Valencia	Spain	80	214	506	790	0.9	0.2	6	1991
Milwaukee	United States of America		285	836	1,311	0.9	0.7	10	2000
Dublin	Ireland	165	382	626	989	0.9	0.8	7	2002
Milano (Milan)	Italy	135	491	1,883	2,985	0.9	-0.3	22	2001
Boston	United States of America	25	1,075	2,551	4,049	0.9	1.7	30	2000
Philadelphia	United States of America	69	1,418	3,128	5,160	1.0	0.9	41	2000
Oslo	Norway			468	774	1.0	1.2	6	1990
Chicago	United States of America	4	1,717	4,999	8,333	1.0	1.2	67	2000
Nizhni Novgorod (also Gorki, Gorky)	Russian Federation	23	90	796	1,331	1.0	-0.6	11	2002
Torino (Turin)	Italy	66	330	1,011	1,694	1.0	-0.5	14	2001
Providence	United States of America	8	176	703	1,178	1.0	1.2	10	2000
Huzhou	China	0	0	678	1,141	1.0	1.0	9	2000
Cincinnati	United States of America	1	326	881	1,508	1.1	1.2	13	2000
Porto (Oporto)	Portugal	67	168	730	1,254	1.1	0.7	10	2001
San Francisco-Oakland	United States of America	0	439	1,855	3,236	1.1	0.9	28	2000
Donets'k	Ukraine		28	585	1,026	1.1	-0.7	9	2001
Suining, Sichuan	China			763	1,352	1.2	0.7	12	2000
Samara (also Kuybyshev)	Russian Federation	0	90	658	1,173	1.2	-0.6	10	2002
Athínai (Athens)	Greece	12	129	1,783	3,179	1.2	0.3	28	2001
Baltimore	United States of America	27	508	1,168	2,083	1.2	1.2	18	2000
Paris	France	548	3,330	5,424	9,692	1.2	0.4	85	1999
Sankt Peterburg (Saint Petersburg)	Russian Federation	220	1,439	2,903	5,214	1.2	0.4	46	2002
Roma (Rome)	Italy	153	438	1,884	3,385	1.2	-0.2	30	2001
Tbilisi	Georgia	15	160	612	1,100	1.2	-1.1	10	2002
Kyoto	Japan	377	353	1,002	1,806	1.2	0.3	16	2000
Liuan	China			861	1,553	1.2	1.2	14	2000
Louisville	United States of America	0	205	476	866	1.2	1.4	8	2000
Taian, Shandong	China	0	0	829	1,534	1.2	0.8	14	2000
Leshan	China			604	1,118	1.2	0.4	10	2000
Saratov	Russian Federation	27	137	473	878	1.2	-0.3	8	2002
Zigong	China	0	0	564	1,049	1.2	0.7	10	2000
Moskva (Moscow)	Russian Federation	238	1,120	5,356	10,103	1.3	1.1	95	2002
Chelyabinsk	Russian Federation	2	20	573	1,088	1.3	-0.4	10	2002
La Habana (Havana)	Cuba	94	236	1,147	2,187	1.3	0.4	21	1981
Zibo (also Boshan, Tzupo, Poshan, Tzepo, Tzucheng)	China	0	0	1,453	2,806	1.3	1.2	27	2000
Kansas City	United States of America		164	703	1,365	1.3	1.0	13	2000
Odesa	Ukraine	7	449	532	1,037	1.3	-0.5	10	2001
Jiaxing	China			448	877	1.4	1.7	9	2000
Kharkiv (Kharkov)	Ukraine	10	174	758	1,484	1.4	-0.7	15	2001
Novosibirsk	Russian Federation		8	719	1,426	1.4	0.0	14	2002
Hartford	United States of America			425	853	1.4	0.9	9	2000
Dnipropetrovs'k (Dnepropetrovsk)	Ukraine	9	113	536	1,077	1.4	-0.8	11	2001
Baku	Azerbaijan	0	112	897	1,803	1.4	0.4	18	1999
Perm	Russian Federation	3	45	498	1,014	1.4	-0.6	10	2002

Lisboa (Lisbon)	Portugal	237	356	1,304	2,672	1.4	0.5	27	2001
Yekaterinburg (Ekaterinburg, Sverdlovsk)	Russian Federation	4	43	628	1,303	1.5	-0.4	14	2002
Rosario	Argentina	5	123	554	1,152	1.5	0.6	12	2001
Ciudad de Guatemala (Guatemala City)	Guatemala	24	62	428	908	1.5	1.2	10	2002
Qiqihaer (Qiqihar, Chichihaerh, Tsitshar)	China	49	25	721	1,535	1.5	0.9	16	2000
Kazan	Russian Federation	25	130	514	1,103	1.5	0.1	12	2002
Bridgeport-Stamford	United States of America			415	894	1.5	2.3	10	2000
Warszawa (Warsaw)	Poland	75	724	768	1,666	1.6	0.2	18	2002
Zürich (Zurich)	Switzerland	10	151	494	1,074	1.6	1.5	12	2000
Marseille-Aix-en- Provence	France	111	491	624	1,357	1.6	0.4	15	1999
Shanghai	China	100	619	6,066	13,243	1.6	4.9	144	2000
Volgograd	Russian Federation	4	55	461	1,010	1.6	0.1	11	2002
Rostov-na-Donu (Rostov-on-Don)	Russian Federation	4	119	484	1,061	1.6	0.4	12	2002
Shenyang (also Mukden before 1949)	China	180		2,091	4,599	1.6	-0.1	50	2000
Stockholm	Sweden	76	301	741	1,652	1.6	1.1	18	1990
Sofiya (Sofia)	Bulgaria	46	68	522	1,164	1.6	-0.2	13	1985
Kraków (Cracow)	Poland	25	91	339	756	1.6	0.3	8	2002

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