



# Urbanisation concepts and trends

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Gordon McGranahan and David Satterthwaite

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There is an emerging consensus that urbanisation is critically important to international development, but considerable confusion over what urbanisation actually is; whether it is accelerating or slowing; whether it should be encouraged or discouraged; and, more generally, what the responses should be. This Working Paper reviews some key conceptual issues and summarises urbanisation trends. It ends with a brief review of urbanisation and sustainable development, concluding that although urbanisation brings serious challenges, attempts to inhibit it through exclusionary policies are likely to be economically, socially and environmentally damaging. Moreover, with the right support urbanisation can become an important element of sustainable development.

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# Summary

Judged by standard demographic definitions and official data, many of the more common international claims about urbanisation are wrong: Africa is not the fastest urbanising continent (Asia is); the rate of urbanisation in low-income countries is not unprecedented or accelerating (indeed it has been falling for decades now); megacities are not becoming the predominant urban form (megacities, with populations over 10 million only account for 10 per cent of urban population and most are not growing particularly fast); and urbanisation is not the primary driver of urban land expansion (declining urban densities and natural population growth contribute comparable shares). Most importantly, we are not facing an urban explosion that needs to be restrained, but the latter part of an urban transition that needs to be steered.

This Working Paper examines some of the sources of conceptual and empirical confusion about urbanisation and reviews what we know about urbanisation and its relations to sustainable development. This relatively simple and straightforward account is intended to assist those attempting to understand the implications of urbanisation for their own local or international attempts to contribute to sustainable development. To reiterate, it treats urbanisation not as a path towards future crisis or plenty, but as an ongoing transition that provides economic, social and even environmental opportunities, as long as they are seized.

Major sources of demographic confusion about urbanisation include:

- Different definitions of urban. Even United Nations statistics on urban and rural populations rely on definitions of rural and urban that vary between countries. Only about one-quarter of countries rely only on criteria related to population size and (less often) density, and though most include population criteria along with others, these population criteria themselves vary considerably. Although most size criteria fall between 1,000 and 5,000, in Sweden 200 people can form an urban settlement, whereas in Mali the last census set a minimum of 40,000. In many countries, urban and administrative status are linked, and the majority of countries also include administrative criteria in their urban definition. Administrative status is correlated with population characteristics but not in a straightforward way. As such, there are cases where surprising statistics on urban populations and population shares are rooted in surprising definitions of urban.
- Different definitions of urbanisation. It is generally accepted that urbanisation involves the shift in population from rural to urban settlements. From a demographic perspective, the urbanisation level is best measured by the urban population share, with the urbanisation rate being the rate at which that share is growing. It is confusing when people use urbanisation to refer instead to urban population growth: when urban and rural populations grow together this is not really urbanisation; and, because of overall population growth, the current rate at which urban populations are growing globally is about twice the rate at which the urban share is growing. It is even more confusing when urbanisation is used to refer to the expansion of urban land cover: the rate at which urban land cover is expanding is about three times the rate at which the urban share is growing; and although urbanisation involves increasing settlement density, urban land cover expansion is increasingly driven by declining settlement density.
- A reliance on census data and simplified urban projection techniques. Particularly in low-income countries, accurate urban and rural population estimates rely on censuses that take place about once a decade, and in times of economic difficulties or conflict may take place far more rarely. Even estimates of current population are sometimes based on projections of census data from many years ago. The United Nations projections have been revised over the years, but remain relatively simple, making no attempt to take account of changes in, for example, economic circumstances. As such, when claims are made about urbanisation continuing unabated despite a lack of economic growth, as for Africa before the recent growth spurt, these need to be scrutinised carefully.

Despite the uncertainties in the sizes of urban and rural population, the broad outlines of the ongoing urban transition are clear. United Nations statistics had the world becoming half urban in 2007, and this was a rough but reasonable estimate. There is quite a close correlation between the level of urbanisation and economic status, and it might well be closer still with better statistics.

Urbanisation eases off as high urban shares are reached, and Europe, North America, Latin America and the Caribbean and Oceania now all have urban shares over 70 per cent, and low urbanisation rates. Asia's urban share is estimated to be the fastest growing in the 2010s, with its urbanisation rate of 1.4 per cent per year, compared to 1.3 per cent in sub-Saharan Africa, 0.5 per cent in North Africa and less in other regions.

Even Asia and Africa were urbanising considerably faster for most of the second half of the 20th century, when Latin America was also urbanising quite quickly. Overall population growth rates have also been declining, though less so in sub-Saharan Africa where growth for the 2010s is estimated at 2.4 per cent per year, tripling the urban population growth rate from what it would have been as the result of its urbanisation alone.

Although urbanisation and urban growth rates have been declining for some time, the number of people being added to the world's urban population annually has been increasing steadily and is expected to peak at almost 80 million during this decade. Despite declining increments, the United Nation's urban population projection for 2010–2050 is for an additional 944 million urban dwellers in Africa and 1,449 million in Asia.

These combine to be equivalent to about two thirds of the urban population in 2010, and are about the same magnitude as the overall increase in population predicted for the 2010–2050 period. Accommodating this many more urban dwellers efficiently and equitably on a planet where global limits need to be addressed will be difficult, particularly if it is not planned for. As these figures indicate, however, the challenge is not to control an urban explosion but to manage an urban transition.

Although urbanisation continues to be critically important, it is also important to recognise that in some ways the rural/urban dichotomy is losing its salience. The boundary between rural and urban is increasingly blurred, and many of the traditional distinctions between urban and rural cultures, lifestyles and enterprises are eroding or reforming.

Not only are there a growing range of city-sizes and increasing urban sprawl, but multipolar urban regions are increasingly prevalent, and are poorly measured by traditional metrics of settlement size. Moreover, although there is still a large net migration from rural to urban areas, changes in circular and other forms of migration are also important to the quality of urban and rural life.

From the perspective of sustainable development, urbanisation provides many opportunities for progress. But successful urbanisation is achieved and not simply allowed. The voluntary movement of population and enterprises to urban centres is critical, but productive cities also need supportive local and national governments.

Socially, attempts to exclude low-income populations from gaining access to urban benefits can be very harmful and inequitable, but inclusive urbanisation requires more than just an open-door policy. Environmentally, there are advantages to be gained from urban agglomeration and compact urban forms, but some of the most important urban advantages require urban infrastructure, policies and planning that support the transition to more resilient, healthy and sustainable cities.

# 1

# Background

To say a country or region is urbanising implies that it is becoming more urban. Demographers have interpreted this to mean that a growing share of the population lives in urban settlements (Poston and Bouvier 2010, pp 307–311), with the level of urbanisation being the urban share, and the rate of urbanisation being the annual growth rate of this urban share (United Nations Population Division 2014). When they bother to define it at all, many other urban researchers also define urbanisation in this way.

Urbanisation is often used more loosely, however, to refer to a broad-based rural-to-urban transition involving population, land use, economic activity and culture, or indeed any one of these. Thus, it is frequently used to refer to changes in land-use for specific areas (usually on the periphery of urban concentrations) as this land becomes 'urbanised' and is sold and developed for urban use (e.g. the sale of plots for housing).

The problem with applying the term urbanisation to simultaneous changes along these different dimensions is that they do not occur together, and the very notion that there is a clear rural/urban distinction in economic activities or cultural norms is difficult to maintain. Even the distinction between urban and rural land and populations is becoming blurred.

Perhaps more importantly, shifts along these different dimensions can have very different drivers and different implications: thus, the shift in population from rural to urban settlements involves a shift to more dense settlement patterns; whereas the shift from rural to urban land use is increasingly the result of shifts to less dense urban settlement patterns.

In this working paper, the demographic definition will be used, but the economic, social and environmental correlates of demographic urbanisation will also be examined. The first section following this introduction flags up some of the difficulties inherent in interpreting statistics on urbanisation. The next sections review these same statistics, their historical trends and future projections, relying heavily on official United Nations reports on urban prospects (United Nations Population Division 2014).

They show a world in which urbanisation and urban population growth has been taking place unevenly, but following a somewhat similar logic. Globally, we are at a point where the rates of population growth, urbanisation and urban population growth have all been declining for decades, but the number of additional people living in urban areas each year is just peaking, and accounts for virtually all of the world's population increase.

The paper then looks beyond the narrow rural/urban dichotomy to consider urbanisation in the context of changing settlement forms and rural-urban linkages, and examines the challenges and opportunities urbanisation poses for economic development, social inclusion and environmental health and sustainability.

## 2

# Interpreting and misinterpreting international statistics on urban populations

In 2008, the United Nations pronounced that half of the world's population was living in urban areas. But this claim was based on statistics from countries that use differing definitions of urban, and whose current urban population figures were, in effect, projections based on census data of various vintages, using very simple projection techniques. The United Nations Population Division's bi-annual series on World Urbanisation Prospects is an invaluable resource, and provides extremely useful global estimates of urbanisation trends, but it is important to recognize its underlying limitations.

## 2.1 Using different definitions of urban

There is no international consensus on how to determine the boundaries of urban areas or identify when a settlement is 'urban', as evidenced by the diversity of national urban definition summaries in the publications of the United Nations Population Division (2014). Some researchers might prefer a simple, standardised definition, based on population size and density criteria, and some countries have adopted such definitions (in some cases with allowances to include commuters living beyond the bounds of the dense agglomeration).

In many countries, however, settlements designated as urban are expected to serve certain administrative functions. Administrative responsibilities, and the associated status of urban, are rarely conferred on the basis of physical features alone. Alternatively, some countries have multiple criteria, perhaps including size, density and administrative level, but also extending to indicators of what could be considered urban employment (e.g. non-agricultural workers), facilities (e.g. higher-level schools), infrastructure (e.g. street lighting). As well as varying between countries, definitions also change over time.

In the face of the diverse urban definitions, international reporting and comparisons of urban populations does elicit a degree of conformity, but the differences can be misleading. In most countries with size criteria, the minimum size ranges from 1,000 to 5,000. Extremes, however, include Sweden where a built-up area with at least 200 households, with gaps of no more than 200 metres between them, is defined as urban; and Mali, where the censuses up to 1987 used a cut-off of 5,000, the 1998 census used a cut-off of 30,000 and the 2009 census used a cut-off of 40,000.



As the resolution and availability of remote sensing improves, it will become increasingly easy to apply standard demographic definitions, independent of administrative functions. Attempts to develop and apply more internationally comparable demographic definitions of urban are already being made. A step in this direction was taken for the World Bank's World Development Report 2009 (Uchida and Nelson 2010; World Bank 2009). The resulting adjustments suggest that part of the explanation for Asia not being much more urban than Africa, despite higher incomes per capita, is that some of the key countries including India have relatively restrictive definitions of what is urban.

As techniques improve, it should also be increasingly possible to move beyond simple rural/urban distinctions towards more complex settlement differentiation. In the not too distant future, it may even be possible for users of new data systems to apply their own urban definitions, based on variables such as density, contiguity and distance (Montgomery and Balk 2011). Hopefully, this will allow the changes in settlement form and function to be better understood, in relation to changing social, economic and environmental complexity, rather than simply providing a more precise treatment of urbanisation as a narrowly demographic phenomenon.

## 2.2 Confusing urban population growth, urbanisation and rural-urban migration

When urbanisation is treated as a demographic phenomenon, it is often misleadingly described as equivalent to urban population growth. Thus, the Wikipedia definition of urbanisation at the time of writing this (18-01-2014) states that: 'Urbanisation refers to the increasing number of people that live in urban areas'. However, only about half of global urban population growth can be ascribed to the increasing share of the population that is urban (i.e. to urbanisation rigorously defined), the other half being the result of natural population growth.

Thus, the world's population between 2000 and 2010 is estimated to have grown at 1.2 per cent per annum; the urbanisation level is estimated to have been growing at 1.0 per cent per annum; and the urban population growth rate has been 2.3 per cent per annum (a more precise calculation would still show the urban population growth rate to be slightly more than the sum of the other two).

Urbanisation is primarily the outcome of (net) migration from rural to urban areas. The expansion of urban boundaries and the formation of new urban centres (mostly the reclassification of what were previously villages as they grow or develop to meet national urban criteria) also contribute to urbanisation, but it should be kept in mind that migration is also an important driver behind the formation of new urban centres and the spatial expansion of old ones.

## 2.3 Relying on old census data and simple population projections

Reliable estimates of rural and urban population have long depended on national censuses, which aspire to complete counts of everyone in the country at their place of residence at the time of the census. Modern technology is slowly rendering enumeration-based censuses less useful or even obsolete in countries with well-developed registration systems, and in Western Europe registration-based and mixed censuses are becoming the norm (Coleman 2013). Most other international estimates of urban and rural population still rely heavily on enumeration censuses undertaken every five or more often ten years, sometimes supplemented by intercensal surveys.

Even well-organised censuses find it difficult to locate and count everyone, especially those who do not want to be counted. Undercounting can be expected to be more prevalent among low-income urban populations, including the homeless, illegal or unregistered migrants, people living in informal settlements, in backrooms, backyards or workplaces, and people not acknowledged as resident by the principal householders (e.g. a nephew from the countryside or an acquaintance from an even more crowded house nearby, who sleeps on the porch).

Chasing up missing responses and controlling the enumeration tightly can be expensive, and low- and middle-income countries cannot be expected to pay any more than a small fraction of the US\$49 per capita cost of the 2010 United States census (Coleman 2013, p. 337). Nevertheless, especially in low-income settings, census estimates are far more reliable than other available means of estimating rural and urban populations. They can also provide data that are useful for local governments, unlike national sample surveys, as they can show changes in population (and other topics) within each ward/district/street, if made available. Unfortunately, they are not just costly, but often take several years to process and release, and national census authorities may not provide census data to local governments in a form that they can use.



Future urbanisation and urban population estimates inevitably rely on projections, and given the intermittent and delayed nature of census data, so too do estimates of current urban and rural populations. When current estimates are based on long past censuses, as is particularly likely to be the case in low-income and crisis-ridden countries, it is easy to draw unwarranted conclusions when estimates do not respond to changing conditions.

Thus, some researchers have suggested that past claims that Africa continued to urbanise even after economic growth fell are, at least in part, an artefact of urbanisation estimates being projections of trends from a time before the economies were in decline (Potts 2009, 2012; Satterthwaite 2007). More generally, although the methods behind United Nations projections on which most researchers depend have been adjusted over the years, they could do with a more comprehensive upgrading (Bocquier 2014 forthcoming; Buettner 2014 online).

## 3

# Estimates of past and future urban populations and urbanisation levels

It is often claimed, particularly in crisis narratives designed to present urbanisation as a major threat, that contemporary urbanisation and urban population growth rates are unprecedented (for examples see Satterthwaite 2010). Sub-Saharan Africa in particular is often singled out as having urbanisation rates that are especially high and increasing, when they are neither.

As described below, average world urban growth rates have actually been declining since the 1950s, and those for sub-Saharan Africa since at least the 1970s (United Nations Population Division 2014). Urbanisation rates are highest in Asia, and global rates have been declining over the past half century. Urbanisation rates and urban growth rates are both predicted to continue their descent.

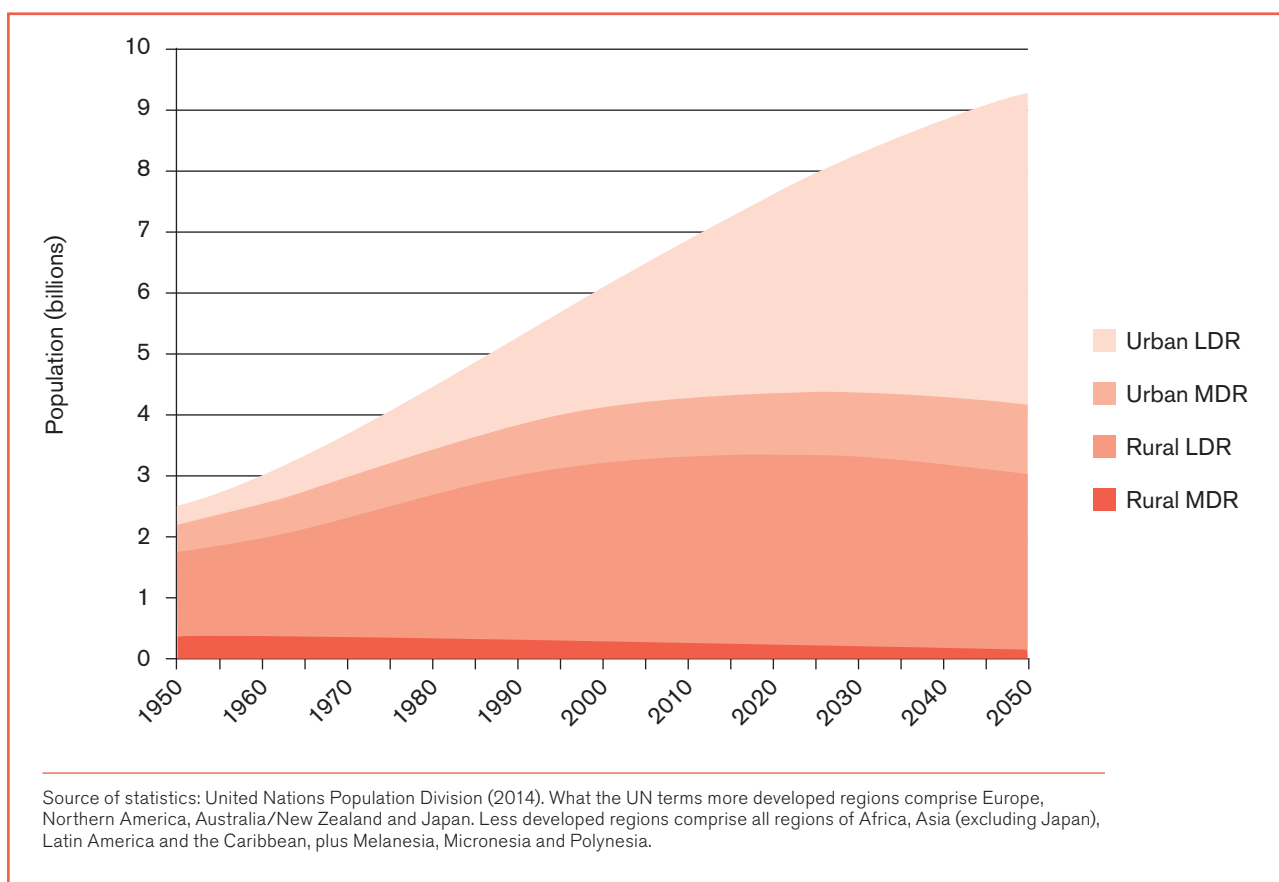
The number of people being added to urban areas is unprecedented, however. Despite the decline in growth rates, which has important policy implications, the estimated annual increase in the number of urban people in the world is just peaking at nearly 80 million, and will only decline slowly in the coming decades. Indeed, the demographic momentum is such that a major shift in population from rural to urban areas is still anticipated.

The United Nations' urban population projection for 2010–2050 has an additional 944 million urban dwellers in Africa and 1,449 million in Asia (United Nations Population Division 2014). These combine to about two thirds of the urban population of the world in 2010, and as illustrated in Figure 1 almost all population growth in the 2010–2050 period is expected to occur in urban areas. Accommodating this many more urban dwellers efficiently and equitably in a planet where global limits need to be addressed will be difficult, particularly if it is not planned for.

What the UN terms more developed regions comprise Europe, Northern America, Australia/New Zealand and Japan. Less developed regions comprise all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, plus Melanesia, Micronesia and Polynesia.

It can be helpful to think of these urban demographics in terms of two stylised transitions, which are overlapping, interrelated, but distinct. The first, known as the demographic transition (Dyson 2010; Rowland 2003, pp 16–24), posits that when socio-economic development leads to falling mortality rates in a previously stable (low-income) population, the population will grow until eventually fertility also falls to the point where the population again stabilises at

Figure 1. Population estimates of the world 1950–2050 by rural/urban and more/less developed regions



lower mortality and fertility rates when income levels are much higher.<sup>1</sup>

The second is known as the urban transition. It posits a shift from a predominantly agricultural population living mostly in relatively small and dispersed rural settlements towards a predominantly urban-based population engaged mostly in industrial and service activities (Montgomery *et al.* 2003).

Both transitions are extremely complex, and bound up with other dimensions of socio-economic development; they are also interrelated. High rates of population growth can contribute to a shift in population towards urban areas, particularly if the urban economy accommodates the larger labour force productively. Moreover, urbanisation contributes to the demographic transition, as reflected by the lower fertility rates among urban populations.

The first set of rows in Table 1 illustrates the changing overall population growth rates for the major regions of the world, and these conform roughly to the demographic transition. Although population growth rates are now falling in all regions, European population growth rates are close to zero, whereas population growth rates in sub-Saharan Africa are still well above two per cent. Growth rates in Asia and Latin America have been declining particularly rapidly, with Asia's decline having started more recently.

These differences are consistent with: Europe having some of the highest incomes per capita and having virtually completed its demographic transition; sub-Saharan Africa having some of the lowest per capita incomes and still being in the midst of its transition; and Asia and Latin America having intermediate income levels, with Asia catching up in recent decades. North America's population growth rate may seem higher than its developmental indicators might lead one to expect, but this is in part because of international immigration into the region.

<sup>1</sup> References to the second demographic transition by demographic researchers generally refer not to the urban transition, but to a subsequent transition that is held to be occurring in relatively wealthy countries, which involves sub-replacement fertility (Lesthaeghe 2010). This second transition is beyond the scope of this discussion, as are the more complex versions of the first transition.

Table 1. Estimates of population growth rates, urbanization rates and urban population growth rates (all in % per annum) by region for decades between 1950–2050

	1950–1960	1960–1970	1970–1980	1980–1990	1990–2000	2000–2010	2010–2020	2020–2030	2030–2040	2040–2050
<b>Population growth rates</b>										
World	1.8	2.0	1.9	1.8	1.4	1.2	1.1	0.9	0.7	0.6
Sub-Saharan Africa	2.1	2.5	2.8	2.8	2.7	2.7	2.6	2.4	2.2	2.0
Northern Africa	2.7	2.7	2.5	2.6	1.9	1.7	1.6	1.3	1.0	0.8
Asia	2.0	2.3	2.2	2.0	1.5	1.1	1.0	0.6	0.4	0.2
Europe	1.0	0.8	0.6	0.4	0.1	0.2	0.0	-0.1	-0.2	-0.2
Latin America and the Caribbean	2.8	2.7	2.4	2.0	1.7	1.3	1.0	0.8	0.5	0.3
Northern America	1.8	1.3	1.0	1.0	1.1	0.9	0.8	0.7	0.6	0.5
Oceania	2.2	2.2	1.6	1.6	1.5	1.6	1.4	1.2	1.0	0.9
<b>Urbanization rates</b>										
World	1.3	0.8	0.7	0.9	0.8	1.0	0.9	0.7	0.5	0.5
Sub-Saharan Africa	3.3	2.1	2.1	1.9	1.3	1.4	1.3	1.2	1.0	0.9
Northern Africa	2.0	1.6	1.1	1.0	0.6	0.4	0.5	0.5	0.6	0.6
Asia	1.9	1.2	1.4	1.7	1.5	1.8	1.4	1.0	0.7	0.6
Europe	1.0	1.0	0.7	0.4	0.1	0.2	0.3	0.3	0.3	0.3
Latin America and the Caribbean	1.8	1.5	1.2	0.9	0.7	0.4	0.3	0.2	0.2	0.2
Northern America	0.9	0.5	0.0	0.2	0.5	0.2	0.2	0.2	0.2	0.2
Oceania	0.7	0.6	0.0	-0.1	0.0	0.0	0.0	0.1	0.1	0.2
<b>Urban population growth rates</b>										
World	3.2	2.8	2.6	2.7	2.3	2.3	2.0	1.5	1.2	1.0
Sub-Saharan Africa	5.5	4.6	4.9	4.8	4.0	4.1	4.0	3.6	3.2	2.9
Northern Africa	4.7	4.4	3.6	3.6	2.5	2.1	2.1	1.8	1.6	1.4
Asia	3.9	3.5	3.5	3.8	3.0	3.0	2.3	1.6	1.1	0.8
Europe	2.0	1.8	1.2	0.8	0.2	0.4	0.3	0.2	0.2	0.1
Latin America and the Caribbean	4.6	4.2	3.6	3.0	2.4	1.7	1.4	1.1	0.7	0.5
Northern America	2.7	1.8	1.0	1.2	1.6	1.2	1.0	0.9	0.8	0.6
Oceania	3.0	2.9	1.6	1.5	1.5	1.6	1.4	1.2	1.1	1.0

Source of population and urbanization statistics: United Nations Population Division (2014). The figures are compound annual growth rates.

The second set of rows in Table 1 contains the urbanisation rates, which together with Table 2 reflect movement along the urban transition. Asia is currently the fastest urbanising region, with an average urbanisation rate estimated at 1.4 per cent this decade, with China in particular urbanising and growing economically very rapidly.

Sub-Saharan Africa is also still urbanising at about 1.3 per cent, and its urbanisation rate is declining more slowly than Asia's, with the result that by the 2020s, sub-Saharan Africa is projected to be urbanising faster than Asia. With the exception of North Africa, all the other regions are urbanising at well under half a per cent per annum, which is consistent with their all having had more than two-thirds of their populations living in urban areas in 2010 (see Table 2).

The third set of rows in Table 1, the urban population growth rates are approximately the sum of the other two: urban growth rates are a combination of population growth rates and urbanisation rates. Sub-Saharan Africa's 4.0 per cent urban annual growth rate during the current decade (2010–2015) is the highest of any region, despite being well below the 5.5 per cent registered in the 1950s. More than half of this growth can be accounted for by its high overall population growth rate. Asia, by way of contrast, has a lower (2.3 per cent) urban population growth rate, but more than half of this growth reflects urbanisation.

Although the demographic and urban transitions can help make sense of the statistics summarised in Tables 1 and 2, the underlying relationships and drivers are still unclear, and even to the extent that the generalisations

that the transitions postulate do hold, they have limited predictive power or direct policy relevance. There is still considerable debate over the principal shifts in the demographic transition, including why, when and for whom health improves and mortality rates decline (Deaton 2013), and whether the primary driver of fertility decline is, for example, changes in education (Lutz and KC 2011), urbanisation (Martine, Alves and Cavenaghi 2013) or better access to contraception (Cleland *et al.* 2012).

The relationships between the two transitions are also poorly understood, with many treating them as largely independent, but some presenting the urban transition as primarily driven by or indeed a component of the demographic transition (Dyson 2011). Moreover, as described in more detail below, the relationship between urbanisation and socio-economic development is interpreted in widely divergent ways, even if proponents of urbanisation as a positive force have become more vocal in recent years (e.g. Glaeser 2011b; UNFPA 2007; World Bank 2009).

Too much of a focus on the generalities of the demographic and urban transition models can hide the human struggles involved in urbanisation; the conflicts it engenders, the opportunities it creates, and the enormous individual and collective ingenuity required to overcome the challenges it brings. Demographers sometimes point out that there are two ways that people come to contribute to the urbanisation statistics: by migrating from rural to urban locations; or (explaining a smaller but significant share of urbanisation) by living in locations that are being reclassified from rural to urban.

Table 2. Urbanization levels (percent urban) 1950–2050 by geographical region

GEOGRAPHICAL AREA	1950	1970	1990	2010	2030	2050
World	30	37	43	52	60	66
Sub-Saharan Africa	11	18	27	35	45	55
Northern Africa	26	37	46	50	56	63
Asia	18	24	32	45	56	64
China	12	17	26	49	69	76
India	17	20	26	31	39	50
Europe	52	63	70	73	77	82
Latin America and the Caribbean	41	57	71	78	83	86
Northern America	64	74	75	81	84	87
Oceania	62	71	71	71	71	74

Source of statistics: United Nations Population Division (2014)

But this presents urbanisation as a relatively passive process, involving one decision to move, or perhaps no moves at all. In fact, people often move back and forth between and among rural and urban areas. Urbanisation occurs as much through decisions not to go back to rural areas as it is through decisions to move to town. Moreover, reclassification is linked to population growth in previously rural localities. Migration is likely to be a bigger factor in the growth of many low-income (usually informal) settlements in some peri-urban areas, and even in a large share of large villages becoming urban, than in the growth of existing urban areas.

Moreover, conformity to the demographic and urban transition models can also hide the enormous variety of forms urbanisation can take. Urbanisation is very open-ended process, locally and globally. At the local level, it is difficult to predict which towns and cities will succeed and prosper, and which will decline; and what the consequences will be for the urban and rural economies and environments. Seemingly small differences in initial conditions, and in the choices taken and changes imposed along the way, can make all the difference.

It is difficult to predict the increasingly global economic and environmental consequences of the system of cities that form the core of the world economy and its dominant sources of culture. And it is particularly difficult to disentangle the role of urbanisation in transforming the world we live in from the economic, cultural and technological shifts that tend to accompany urbanisation.

## 4

# Moving beyond the rural/urban dichotomy

It is commonly pointed out that shift from rural to urban should be understood as a continuum rather than a dichotomy, but it is not really a continuum either. At the very least, there are two continua. One extends in a transect from the very urban centre, through the ambiguous periphery into the rural hinterland. The second extends across settlement sizes from the very urban megacity, through the ambiguous small towns and down to the isolated rural hamlets and farmhouses. But the very treatment of settlement as occurring in distinct clusters is also a crude and increasingly inaccurate simplification.

At least since the 1980s, it has also been recognised that some large population concentrations, often containing megacities, are best conceived of as polycentric urban regions. The urban region's boundaries need not be based on its administrative functions or on contiguous urban settlement, but on regular flows of people and information (Hall 2009). It has also been observed that in some parts of the world conventionally 'urban' activities and livelihoods are increasingly found in areas of low-density and small settlements.

This is not just the outcome of the sprawl and suburbanisation of settlements in affluent countries, but of the sort of changes labelled *kotadesasi* (or rural urbanisation) in Indonesia (McGee 1989). Advanced transport and telecommunications make it possible to locate space-intensive economic activities in rural areas,

but still within reach of urban goods and services, and for more people to work from rural homes on what are predominantly urban activities.

Meanwhile, research on the importance and future potential of urban agriculture, and the ecological diversity of some peri-urban areas, would seem to indicate that urban settlements can become ruralised (Redwood 2009; Zezza and Tasciotti 2010). Moreover, many families in rapidly urbanising countries adopt livelihood strategies that span the rural/urban divide. They may invest in securing an urban foothold for at least some family members and for at least some periods of time; and rural-bound remittances from urban workers often make up a significant share of the incomes of these multi-local 'households'.

With the urban-rural distinction losing its salience, some researchers have suggested that it is time to reassess how settlement forms are classified, arguing that a multidimensional approach is needed (Champion and Hugo 2004; Hugo, Champion and Lattes 2003). Such a reclassification is likely to emerge slowly, along with changes in mapping and information technologies. But even when considering urbanisation in the more traditional sense, it is important to consider the changing distribution of settlement sizes and forms (Gabaix and Ioannides 2004; Gonzalez-Val, Lanaspá and Sanz-Gracia 2013; Soo 2005), the expansion of peri-urban zones (Douglas 2008; Lerner and Eakin 2011), and the relationship between urbanisation and



rural-urban linkages (Tacoli 2006). It is also important to recognise that population growth rates often vary greatly among the municipalities that make up large cities or urban regions.

## Changing settlement sizes

Statistics on city size distribution give no indication of city sizes that are particularly common, or where population growth is particularly rapid. Indeed, in the relatively affluent countries where the distribution of city sizes has been analysed in detail, the results are close to those one would predict if there were no relationship at all between settlement (population) growth rates and size (Gonzalez-Val *et al.* 2013).

Looking at the histories of urbanised countries, it has also been observed that urban hierarchy and relative size distribution only shift slowly, though there is a constant churning process as industries and corporate service enterprises change their distribution among cities and city size categories quite rapidly (Duranton 2007). The stability of the global size distribution of cities is also evident (Henderson 2010), despite the large regional and local differences in city growth rates.

As urbanisation has progressed, the number of large cities has increased. The number of cities with populations over 500,000 grew from 5 in 1800 to about 924 in 2010 (see <http://www.iied.org/cities-interactive-data-visual>). More recently, the number of megacities with populations over 10 million grew from 2 in 1950 to 10 in 1990 to 23 in 2010, with their share of the world's urban population growing from 3.2 per cent to 6.7 per cent to 10.3 per cent over this period (United Nations Population Division, 2014). Although fears are often expressed about rapidly growing megacities, most of these cities have been growing more slowly than past projections estimated (Satterthwaite 2007).

Along with large cities, smaller urban settlements have also been growing, with over half of the world's urban population still estimated to live in settlements of under half a million. Moreover, particularly in Latin American countries where urbanisation levels are quite high already and it seemed that megacities were growing particularly rapidly, their growth in fact declined relative to smaller urban centres some time ago. In Brazil, for example, the 1991 census surprised the nation when it showed that not only had urban growth rates declined over the course of the 1980s, but they had declined especially rapidly for the largest cities (Martine and McGranahan 2013).

Over the past two centuries, cities have also shifted their centre of gravity from heavily populated Asia towards Europe and North America, and then more recently back towards Asia again. Thus, although at the start of the 19<sup>th</sup> century 63 per cent of the

world's largest cities were in Asia, this had fallen to 22 per cent by the start of the 20<sup>th</sup> century, but was back up to 49 per cent by the start of the 21<sup>st</sup> century (Satterthwaite 2013, p. 239). These shifts are somewhat similar to those that have been documented for the world's economic centre of gravity (Quah 2011). Most megacities are within the world's largest economies.

In interpreting statistics on the cities in different size categories, it should be kept in mind that the forms of urban settlement are changing along with the sizes. This can easily lead to misinterpretations. Peri-urban growth, declining urban densities and the increasing prevalence of polycentric urban regions have become part of the new urban transformation. When the smaller urban centres in polycentric urban regions grow more rapidly than the larger centres, this can be interpreted as reflecting a shift in population growth towards smaller settlements, or as a change in the form of large urban agglomerations, but is reducible to neither.

## 4.1 Peri-urban growth

Suburbanisation, sprawl and other manifestations of declining urban densities have been observed in more affluent countries at least since the early 19<sup>th</sup> century, and particularly in North America where the shift to reliance for transport on the private automobile was more vigorously promoted. Urban densities have also been declining, though less dramatically, in all other major regions of the world. A key recent study of urban settlements with populations over 100,000 (Angel *et al.* 2011) concluded that:

1. Currently, the densities of built-up areas in the urban settlements of North America and Australia are about half those of Europe and Japan, which are half the average in low- and middle-income countries.
2. Average built-up area densities declined by about 2 per cent per year between 1990 and 2000, and have been declining for at least a century.
3. Open spaces within cities are about equivalent in area to their built-up areas, but the share has been declining at least since the 1990s.
4. Urban land cover grew at about twice the rate of urban population between 1990 and 2000.

There are definitional and methodological problems with making such simple yet sweeping claims, but these estimates illustrate vividly the importance of distinguishing urbanisation, as a demographic phenomenon, and urban spatial expansion. They also highlight the importance of peri-urban expansion to the future of cities.

Unplanned, low-density urban expansion, sometimes referred to as urban sprawl, is often blamed for creating settlement forms that are environmentally damaging

(Johnson 2001; Wilson and Chakraborty 2013) and unhealthy (Frumkin, Frank and Jackson 2004). Damaging sprawl can result from not taking these environmental and health impacts into account when infrastructural and residential decisions are being made, and is sometimes amplified by 'perverse' subsidies (Blais 2010). Particularly in relatively affluent countries, sprawl is often presented as part of what smart growth and compact cities need to work against, though all of these terms are somewhat ambiguous and often contested.

## 4.2 Urbanisation and rural-urban linkages

Urbanisation is often treated as something that just happens in urban settlements, though by its very definition it involves a shift in population from rural to urban locations, transforming rural as well as urban landscapes and livelihoods. Almost inevitably, urbanisation involves changes in demographic, economic and environmental flows between rural and urban areas, though not always in predictable ways. Urbanisation can be spurred by changing urban conditions, but also by changing rural conditions.

Although it is possible to divide people into urban and rural residents, as already noted many people move regularly between rural and urban areas, and many families span the rural/urban divide as part of their livelihood strategies (Tacoli 2006). The conventional picture of urbanisation in the industrialising countries of 19<sup>th</sup> century, repeated by many later writers, was one of a series of migratory steps proceeding from rural areas to nearby towns and then on up towards the larger cities.

Longitudinal profiles of migrants revealed, however, that urbanisation involved more complex and circulatory migration patterns (Pooley and Turnbull 2000). This is probably even truer in currently urbanising countries. The movements vary across age groups and genders, depending on how and for whom rural and urban opportunities and constraints are changing (Tacoli and Mabala 2010).

As argued in the latest World Bank Global Monitoring Report, the evolution of rural-urban linkages is an important influence on progress towards the Millennium Development Goals (World Bank 2013a). Indeed, in reading the following section examining the relationship between urbanisation and sustainable development, it is important to keep in mind that many of the advantages that cities can provide depend on healthy economic and environmental relations with rural areas, and that rural livelihoods and environments depend on what is done in cities.

## 5

# Urbanisation and sustainable development

Sustainable development is often presented as having three dimensions: economic, social and environmental. Urbanisation provides opportunities for achieving progress along all these dimensions, but the opportunities need to be seized. Preventing people from coming to cities tends to be economically, socially and environmentally damaging, but successful urbanisation is achieved and not simply allowed. The following subsections examine urbanisation in the context of each of the different dimensions of sustainable development.

## 5.1 Urbanisation and economic development

As illustrated in Figure 2, cross-country data show higher levels of urbanisation to be associated with higher per capita incomes, with some scatter and shift in the relationship over time. A simple explanation for this positive association is that people and enterprises tend to move to urban locations when it is economically advantageous for them to do so.

There is considerable theory and empirical evidence supporting the view that urbanisation is integral to economic growth (Spence, Annez and Buckley 2009; Strange 2008). Whereas for agricultural and subsistence economies, it is more productive for people to be dispersed across the fertile landscape, industry and services favour urban clustering. Urban agglomeration provides industrial and service

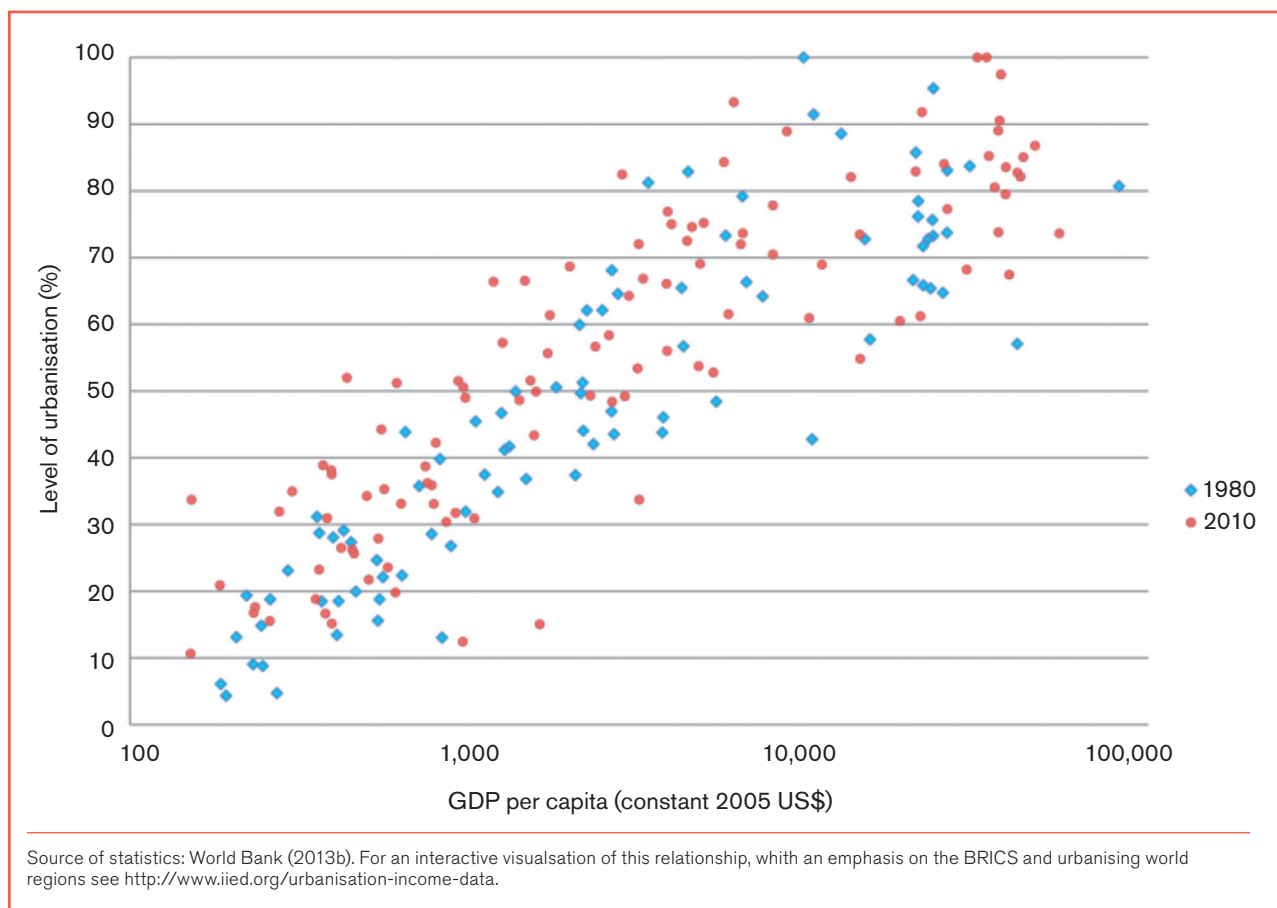
enterprises with economic opportunities for greater specialisation and larger-scale production, with lower transport and transaction costs.

In the language of urban economists, agglomeration facilitates sharing (e.g. of large facilities), matching (e.g. of jobs and people) and learning (e.g. about more productive ways of working) (Duranton and Puga 2004). The advantages of urban locations for post-industrial production and the information economy are less tangible than those for industrial economies (Krugman 2011), but include advantages of face-to-face contact that electronic communications have not managed to replace (Storper 2013, especially Chapter 11).

Not all aspects of urbanisation are economically advantageous, however, and urban crowding and congestion also have their costs, particularly if they are not well managed. Sharing, matching and learning, as well as low transport and communications costs, all depend on having people and enterprises located conveniently in relation to each other. People and enterprises will tend to seek out economically advantageous locations, and given the opportunity will seize many of the economic benefits of agglomeration.

However, this same self-interested behaviour will also tend to create urban congestion and crowding. Although most cities depend on markets, they also rely on good governance to address the negative side effects of urbanisation, and to take advantage of the positive returns to scale in public services. Urban governance in the industrialising cities of the 19<sup>th</sup> century was

Figure 2. Levels of urbanisation plotted against gross national income per capita (2005 US\$ logarithmic scale) in 1980 and 2010



transformed by the public health movement, and the collective response to the worst sanitation and pollution problems (Szreter 2005).

Even market devotees, such as Ed Glaeser, acknowledge that the successful shift to urban economies requires governments to take on new and challenging roles: 'One way to understand the urban challenge is that people in cities need good government much more than people living in low-density areas,' (Glaeser 2011a, p. 594).

Given the potential benefits of urbanisation and urban agglomeration for the economy, one might expect officials in urbanising countries to favour more rapid urbanisation, but the opposite is the case. Thus, for example, the standard survey of world population policies from 2011 found that 64 per cent of 'developing' countries responded that they would like a major change in the spatial distribution of their population; and 82 per cent reported that they had implemented policies to curb rural-urban migration (United Nations 2013).

The figures are even higher in Africa, with 79 per cent wanting a major change in spatial distribution and 84 per cent having policies to curb rural-urban migration.

Less than three per cent actually claimed to have policies to encourage rural-urban migration, though it is noteworthy that China was among this small group.

Anti-urbanisation sentiments among officials in Africa have probably been amplified by the tendency in policy circles to exaggerate the speed that sub-Saharan Africa is urbanising (Potts 2012; Satterthwaite 2007). It has also been suggested that Africa is experiencing 'urbanisation without growth,' a view popularised by a World Bank report (Fay and Opal 2000). The report's anti-urban conclusions were echoed in the World Development Report of the same year: 'Cities in Africa are not serving as engines of growth and structural transformation. Instead, they are part of the cause and a major symptom of the economic and social crises that have enveloped the continent.' (World Bank 2000).

However, later and more thoroughly researched publications by World Bank staff have reversed this interpretation (Kessides 2007). The World Development Report 2009, subtitled *Reshaping Economic Geography* (World Bank 2009), was extremely positive about the economic benefits of urbanisation generally, and claimed that 'urbanisation, done right, can help development more in Africa than elsewhere.' (p. 285).

The report built on a broader shift towards a more positive interpretation of the economic role of cities. A recent review of the evidence that urbanisation contributes to economic growth, focusing especially on Asia and Africa, concluded that urbanisation has the potential to promote growth, even if much depends on how conducive the infrastructure and institutional settings are (Turok and McGranahan 2013).

Even when there is urbanisation without economic growth, this can sometimes be economically beneficial. If, for example, a country's rural economy is in recession because of environmental or political problems, and this affects overall economic performance negatively and pushes people to move to urban areas, this may well lead to urbanisation with economic decline.

If cities take measures to curb this migration, this is likely to make economic conditions worse, particularly for the aspiring migrants. Of course the potential economic benefits of urbanisation are no justification for leaving rural problems to fester, or starving agriculture of productive investment. But we may also under-estimate the extent of the synergy between rural and urban prosperity through urban demand for rural (higher value) goods and urban services supporting rural production (Satterthwaite and Tacoli 2003).

## 5.2 Urbanisation, inequality and social exclusion

Those who support urbanisation as a means of economic advancement generally accept that it also tends to be associated with rising income inequalities (Kanbur and Venables 2005; Kanbur, Venables and Wan 2005). Part of this rising inequality involves rural/urban differences. Intra-urban inequalities are also of growing importance, however. Even according to conventional income-based measures, a growing share of world poverty is located within urban areas (Ravallion, Chen and Sangraula 2007) and most conventional measures miss the depth and scale of urban poverty and inequality (Mitlin and Satterthwaite 2013).

Somewhat paradoxically, although urbanisation is often associated with growing inequality, measures to inhibit urbanisation can amplify these inequalities. There are a number of clear examples of this, even among the more successful emerging economies of Africa, Latin America and Asia.

South Africa's apartheid system, built around racial controls on urbanisation, was not only among the most oppressive systems of urban exclusion when it was in operation, but left a legacy of spatially and racially fragmented cities (Turok 2014 forthcoming). Brazil's

more passive resistance to urbanisation contributed to the emergence of its *favelas*, which are also at the centre of many of the country's current conflicts and social and economic inequalities (Martine and McGranahan 2013). It is less clear what the legacy of China's rural-urban migrant controls, the *hukou* system, will be (McGranahan *et al.* 2014 forthcoming), but despite ongoing reforms, some see the *hukou* as central to China's social and spatial stratification (Chan and Buckingham 2008).

UN-Habitat estimates that about 45 per cent of the urban population in developing countries live in slum households, defined as those lacking improved water, improved sanitation, adequate space or solid construction – up from 35 per cent in 1990 (UN-Habitat 2012, p. 150). A large but difficult to estimate share live in what have come to be termed informal settlements, which represent a 'grey zone of urban exclusion' (Koonings and Kruijt 2009).

Many of these disadvantaged urban residents, including low-income migrants, cannot afford to secure housing in formal markets or through public provisioning. They may not be physically evicted from their cities and towns, but end up living informally, or even illegally, in locations where neither private nor public ownership controls are tightly enforced. This often means that the poorest residents live in locations ill-suited to habitation, and lack access to public amenities and services.

Without an effective public sector working in their interests, struggles for collective consumption have long been central to radical urban politics in low- and middle-income countries (Castells 1983; Castells and Sheridan 1977). More recently, the absence of good governance has contributed to growing problems of violence (Fox and Beall 2012; Moser 2004).

Of course, rural exclusion will also exacerbate inequalities and create social problems, and during the urbanisation process the most inequitable outcomes are likely to arise when the same social groups are being excluded from both urban and rural locations. In rural areas, exclusion may come about through development forms that favour land consolidation and the increasing dominance of large commercial farms, but it can also come about through rural economic decline and population growth.

The well-educated and wealthy rural residents may find it relatively easy to find alternative places to work and live in urban areas. But, the less educated and poorer rural residents are also less likely to be able to find a secure urban home and livelihood, particularly if no efforts are being made in urban areas to accommodate their growing low-income populations.



## 5.3 Urbanisation and shifting environmental burdens

Urbanisation has always raised environmental concerns. Indeed the links between urbanisation and environmental risks were more evident in early cities, where resource constraints were more localised and environmental health issues loomed large. Although these risks are often not treated as environmental in contemporary accounts of the environment as the third pillar of sustainable development, they have always been and continue to be critically important, particularly to very low-income groups.

Ibn Khaldūn, writing on the requirements for the planning of towns in the 14<sup>th</sup> century, identified the following as necessary to prevent them from falling into ruins: ample water fit for human consumption, pastures for livestock, fields suitable for cultivation and forests for fuelwood and building materials (Khaldūn 1967). Meanwhile, the rats and fleas inhabiting urban ecosystems, along with inter-urban trade, provided the basis for early plagues to spread, though this was less well understood.

During the industrialisation and urbanisation of 19<sup>th</sup> century Europe and North America, the persistently unhygienic sanitary conditions of cities facilitated the spread of cholera and other waterborne pandemics. Ambient urban air pollution became the scourge of some of the most economically successful cities. London's Big Smoke of 1952 brought road, air and rail transport to a virtual standstill, causing thousands of deaths and raising sufficient public and expert concern to convince politicians to act (Davis, Bell and Fletcher 2002).

It can be difficult to see the environmental burdens of clean and affluent cities, where green spaces are maintained, pollution is mitigated and local resources are protected. However, the environmental damage being incurred to maintain such cities may well be in distant locations. Past environmental burdens may have been displaced rather than eliminated. To capture such shifts it is important that urban environmental assessments include the full range of environmental burdens, and the different routes through which they can be created, including consumption as well as production-based routes (taking care not to double count).

Generally, environmental burdens depend heavily on local governance and geography, but also vary systematically with economic development. As it has been experienced in recent centuries, economic development has, with some notable exceptions, tended to shift the principal locus of the urban environmental burdens from local to city-regional and eventually towards global scales (McGranahan *et al.* 2001).

Looking across urban centres in different parts of the world, it is evident that despite the considerable overlaps and variation, the poorest urban populations in the poorest countries tend to have the worst environmental health conditions in and around their homes and also among the lowest levels of greenhouse gas emissions per person. The ambient environments of heavily industrialised and motorised cities in middle-income countries tend to be highly distressed environmentally, with the worst ambient air pollution problems. And it is the populations of the wealthiest cities that have the largest global environmental footprints, and that are the biggest per capita drivers of climate change.

These differently scaled environmental burdens can overlap and create environmental injustices, wherein those who face the most hardship as the result of larger-scale burdens contribute the least to them. In polluted industrial cities, the poorest citizens tend to live downstream and downwind of the major polluters. Globally, those most at risk from climate change include the world's lowest-income citizens, rural and urban, who are contributing least to global climate change.

Climate change is creating new environmental risks and exacerbating old ones, including the risks of inadequate water and sanitation provision. Urbanisation is putting in place infrastructure that will not only contribute to or protect people from more local environment burdens, but will determine whether cities, and urbanisation itself, contribute to climate change mitigation and adaptation. Where urban growth takes place will also influence how many people are living in risk-prone regions and localities.

Urbanisation has been part of modern economic growth, and is sometimes blamed for contributing to climate change and other global environmental burdens associated with high consumption levels. It is important, however, to distinguish the effects of urbanisation from those of economic growth, and to set both in the context of the prevailing political economy. When urbanisation leads to higher productivity, it can be said to be contributing to the larger ecological footprint that this productivity often facilitates. However, higher productivity is also likely to be a key ingredient in any successful attempt to reduce global environmental burdens without causing undue economic hardship.

Furthermore, excluding people from cities tends to exacerbate the impact of prevailing environmental problems. In low-income countries, addressing severe environmental health problems is generally cheaper in urban than in rural areas, and exclusive urbanisation is likely to worsen environmental health conditions. Alternatively, when affluent people move out from cities to low-density suburban or rural settlements, their environmental burdens are likely to increase, particularly if they become more dependent on automobile transport. Thus, estimates of greenhouse gas emissions per person in Toronto are an order of magnitude higher in suburban neighbourhoods than in an inner city dense neighbourhood (Hoorweg, Sugar and Trejos Gomez 2011; VandeWeghe and Kennedy 2007).



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