

3 The second urbanization wave

3.1 Dimensions of the second urbanisation wave

The increasing demand for resources in the second half of the 20th century is largely attributable to rising incomes of increasing numbers of people made possible largely by urbanisation (migration of rural populations to cities) and natural growth of urban populations, with the latter now the most significant driver of urban population growth. Although cities only occupy 2% of the earth's land surface, 75% of all natural resources are consumed within cities, and as of 2007 more than half of the world's population lived in cities.²² In the 200 years leading up to 1950, just over

400 million people migrated to the world's cities in what is often referred to as the 'first wave' of urbanisation. Current projections suggest that by 2050 more than 6 billion people (almost 70% of the total world population) will live in urban areas,²³ in a 'second wave' of urbanization. The 3 billion people expected to be added to the global population between 2005 and 2050 will land up mainly in Asian and African cities.

The bulk of growth will be in cities in developing countries, which are expected to grow by an additional 1.3 billion people by 2030, compared to 100 million in developed country cities.²⁴ The highest growth rates are found in Africa, concentrated in Eastern,



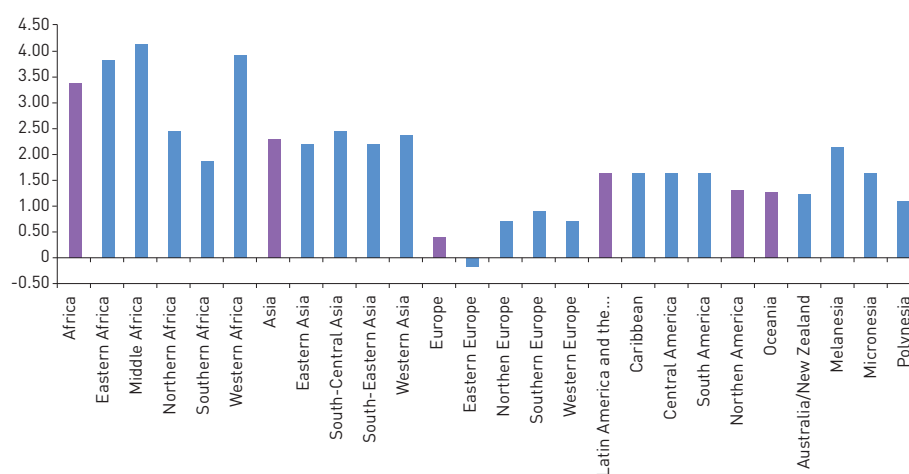
Central and Western Africa (with annual rates of urban population growth higher than 5% in countries such as Malawi, Eritrea and Burkina Faso)²⁵ (see Figure 3.1). Europe has the world's lowest rates of growth, especially in Eastern Europe where the annual rate of urban population growth was -0.26% between 2005 and 2010, led by negative growth rates in some urban areas in the Russian Federation, Ukraine, Bulgaria and Poland.²⁶ Stabilising growth rates in more developed regions poses a stark contrast to the exponential growth in the urban populations of less developed regions.²⁷

Marked contrasts also characterize the distribution of absolute numbers of urban inhabitants in different regions. Although most of the urban dwellers live in Asian cities,²⁸ this region's proportion of urban population is lower than in North America or Europe. However, while urban population growth rates are stabilising in regions that are already predominantly urban (such as Europe, North, South and Central America, and Oceania), regions with a higher proportion of rural population (such as Asia and Africa) may experience exponential rates of urban population growth in the coming years (see Figure 3.2).

A significant shift in economic power from cities of the developed world to those in emerging economies is expected in the next 15 years.²⁹ A third of the developed world cities currently on the list of the top 600 in terms of gross domestic product (GDP) may no longer make this list in 2025 and 136 new cities from developing countries like China, the Democratic Republic of Congo, Nigeria, Indonesia, Pakistan and India are predicted to make it onto the list for the first time. By 2025, middleweight cities (i.e. those with populations between 150,000 and 10 million) in emerging markets are projected to contribute to 40% of global growth, outperforming all the megacities (with populations exceeding 10 million) of the developed and developing world combined. Population growth in 13 current middleweight cities is likely to see them transforming into megacities; 12 of these cities are in emerging markets, and seven are in China alone.

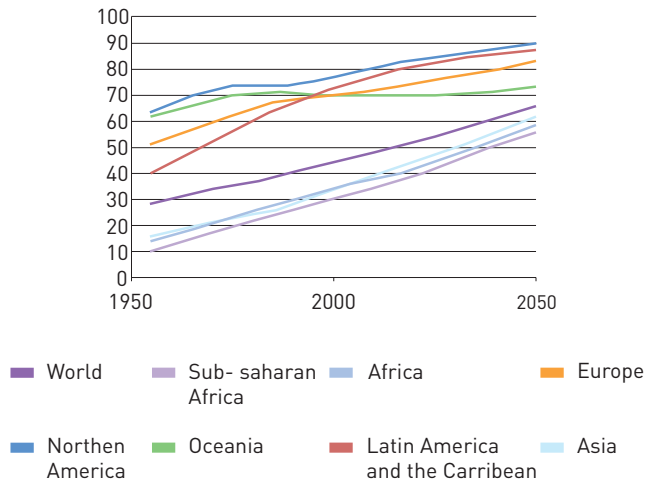
As cities grow, demographic shifts and behavioural changes are leading to a reduction in urban household sizes in many countries. Average household occupant numbers are expected to drop from 3.2 people to 2.7 people by 2025, resulting in a growth in the number of households that is 2.3 times the population growth rate in the world's top cities.³⁰ This will

Figure 3.1
Growth rates 2005-2010 for selected regions (main regions in red)³¹



Source: UN 2010

Figure 3.2
Percentage of population living in urban areas in different regions (1950-2050)³²



Source: UN 2010

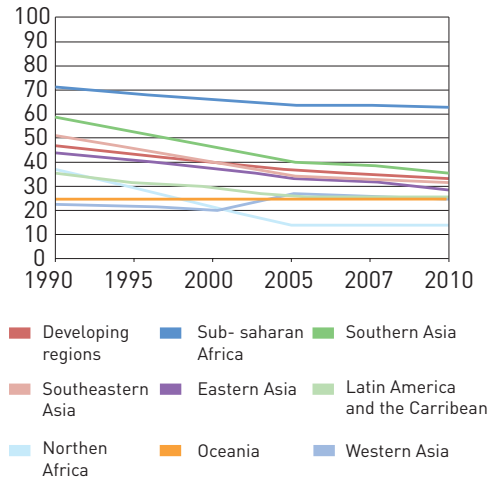
have a dual impact on demand for resources by increasing the number of housing units requiring land and building materials, and reducing the efficiency of resource use per capita compared to that achieved by sharing resources in larger households.³³ Around 85% of demand for housing will be in the cities of emerging economies, and 50% will be from China's cities.³⁴ Considering that the global construction industry currently consumes around 40% of water, 70% of timber products and 45% of energy,³⁵ this construction boom is likely to have a major impact on resources.

As cities continue to attract investment and skilled workers, rising income levels are expected to be a more significant driver of economic growth than population. Between 2010 and 2015, an additional 460 million people will enter the middle class from cities in China, India, Russia, Indonesia, Brazil, Turkey, Mexico and South Africa.³⁶ By 2025, the number of households in emerging economy cities earning over US\$20,000 per year at purchasing power parity will be 1.1 times greater than the number in developed region cities currently among the top 600 in terms of GDP.³⁷ Consumption driven by choice as opposed to need is expected to increase substantially in these emerging markets as higher incomes raise demand for material possessions. In the 10 years leading up

to 2010, the percentage of private automobiles sold in emerging market cities rose from 8 per cent to 37 per cent, providing a preview of the kind of consumption growth likely to be experienced across a range of products from decor and household appliances to clothing and luxury goods.³⁸ It is estimated that India could potentially increase its aggregate urban consumption sixfold between 2005 and 2025, and that consumption could increase more than sevenfold in China.³⁹

Many cities will also be challenged by growing numbers of urban poor, who, as individuals, are forced to consume less than the much smaller middle class households to survive, but who add substantially to (potential) resource demand due to their numbers. The 2011 UN-Habitat State of the World Cities Report concludes that while Millennium Development Goal 1, which deals with extreme poverty, has succeeded in reducing the percentage of the urban population living in slums worldwide, the absolute number of people living in slums continues to grow. While the proportion of urban dwellers living in slums decreased from 46.1% to 32.7% between 1990 and 2010, the total urban slum population in developing regions grew by 26% (totalling an estimated 830,000,000 people in 2010) (Figure 3.3).

Figure 3.3
Percentage of urban population living in slum areas for selected regions (1990-2010)⁴⁰



Source: UN-Habitat 2011

As urban slums continue to expand, urban inequality becomes more structurally consolidated. Local governments struggling to cater for expanding demand often resort to outsourcing services through private-based models, which have often reinforced disparities in service quality and costs determined by established jurisdictions and operational areas.⁴¹ Although comparative data on inequality within cities is limited, it appears that while urban inequality grew in developed countries between 1985 and 2005, it grew at an even faster rate in the developing world.⁴² This highlights the importance of addressing the manner in which poor immigrants are integrated into developing world cities in particular.

3.2 Heterogeneous urbanisation

The second urbanisation wave is not a uniform process. Each region has distinct patterns and processes that reveal the emergence of a lumpy 'rural-urban continuum' in which rural-urban links are highly heterogeneous between and within countries. Furthermore, some cities are rapidly evolving into 'global cities' while at the same time massive new peri-urban peripheries

of under-served, urbanised populations continue to grow in both globalised cities and in cities that remain entrenched in their national and/or regional economies. In light of such heterogeneity, the ways in which cities relate to their hinterlands and to more long-distance resource flows for sources and sinks become important considerations when analysing the way in which infrastructural networks are configured.

In regions where the urban population is stabilising or even decreasing, the reduction of demand may undermine the maintenance of infrastructures. The decline or recomposition of urban populations can also result from de-industrialisation or economic restructuring, which may change the demand for services from both industry and citizens. For example, de-industrialisation in Berlin since the 1990s has led to a 40% reduction in demand for water,⁴³ resulting in redundant infrastructure with additional maintenance requirements and increased costs for consumers. Maintaining redundant infrastructures creates 'artificial demand' that may use clean water resources for purposes that would otherwise use gray water. Similar problems emerge in other 'shrinking' cities, found mainly in Europe, North America and Japan, thereby slowing the potential rate of both resource and impact decoupling.



On the other hand, the astonishing rates of urban population growth found in other parts of the world also pose great challenges in terms of managing limited resources and providing adequate services for all urbanites. Since the 1990s, urbanisation in Asia has resulted in high-density rural or semi-urban areas formed as a result of the expansion and influence of metropolitan economies. McGee⁴⁴ has coined the term '*desakota*' (a combination of the Indonesian words *desa* or village and *kota* or city) to encapsulate this phenomenon, also referred to as extended metropolitan regions (EMR).⁴⁵ These terms refer to a process of region-based urbanisation (as opposed to city-based urbanisation) and mark the changing international divisions of labour, international networks and regional spill-over from one mega-urban region to another within South and East Asia.

The *desakota* constitutes the spatial by-product of high-tech production spilling out of a heavily congested metropolis (such as Jakarta, Manila and Bangkok) into nearby cheaper but still easily accessible rural areas. The EMR landscapes still appear to be predominantly rural with vast areas devoted to cultivation, and while a large proportion of household income is derived from non-agricultural activities,

the provision of services is less secure than in urban areas. The emergence of EMRs and similar spatial phenomena as a result of new articulations to the global economy "...are accompanied by rising incomes and improved quality of life for some groups of inhabitants, but often at the expense of the immiseration of others in both these new cores and peripheries..."⁴⁶

In Latin America and the Caribbean (LAC) recent urban transformations have been closely linked with economic growth, but also with economic disparities. Globalization has influenced the development patterns and structure of major Latin American cities (i.e. Buenos Aires, Lima, São Paulo, and Mexico City) into a polycentric form, where growth concentrates in hot-spots - smaller towns and secondary cities - within wider metropolitan regions.⁴⁷ For example the Monterrey Metropolitan Area in Mexico is an urban agglomeration structured into industrial centres (Monterrey, Escobedo, Guadalupe, Apodaca), which allows for the increased decentralisation of service provision. However, this structure creates institutional difficulties when it comes to coordinating service provision across different public and private institutions and tends to reinforce spatial fragmentation

which, in turn, can exacerbate resource inefficiencies. This phenomenon is often referred to as 'urban archipelagos', associated with diffuse boundaries between the urban and the rural.⁴⁸

In Sub-Saharan Africa, urban development is characterised by the uneven geography of rural-urban interactions. The highly urbanised, extended, low-density, metropolitan, Johannesburg-Pretoria region in South Africa, contrasts with the so-called 'close-settle zones' like Kano in Nigeria - dense but extended areas evolved together with high intensity farming systems. The challenge in many of these areas is to support high population densities with appropriate services while maintaining soil fertility to guarantee food security. With the exception of South Africa, urbanisation and peri-urbanisation in Africa are not necessarily driven by economic development, as many African cities tend to be marginalised in the global economy and growing despite poor macro-economic performance and without significant direct foreign investment.⁴⁹

3.3 Interactive urban-rural flows in developing countries

Contemporary urbanisation trends affect the way in which rural and urban households and individuals straddle their rural and urban worlds.⁵⁰ Decisions about health, fertility, mobility, production, infrastructure, services and so on are increasingly affected by the urbanisation process, both spatially and through informational spill-overs and social networks. Given the key role played by infrastructure in supporting the sustainable development of multiple urban transitions, a key question is whether such transitions will lead to reciprocal relations between urban and rural areas.⁵¹ Urbanisation is not a one way flow of people from rural to urban areas, because a key condition (together with the deterioration of rural livelihoods) that has made rapid urbanisation possible is disappearing fast – namely cheap oil. Rising oil prices that make everyday living in core urban areas increasingly

expensive may slow down urbanisation rates or – more likely – significantly reinforce interactive relations between urban and rural areas as people reduce costs by living less oil-dependent lives in small rural towns or rural areas. This has major implications for the understanding of future trends, on the growth of secondary and tertiary urban centres, and on the likelihood of more self-reliant bioregions that depend less and less on imported food, energy and materials.

An historical approach to urbanisation and development shows a swinging bias that favours either urban or rural areas as the engines of development. An urban bias in development theory emerged during the 1950s and 1960s, seeing rural areas as sources of economic surplus to subsidize industrialising urban areas from where future economic growth was expected to diffuse back to the rural peripheries. In other words, the role of urban areas was to grow and expand at the expense of rural areas that were seen, in turn, as developmental dead ends. In the 1970s and 1980s, development thinking shifted to a 'rural bias' ensuing from an acknowledgment that this 'trickle-down' effect was not materialising. This, in turn, gave rise to a negative view of urbanisation and of rural-urban links.

The focus has shifted over time from a spatial definition (assuming a central urban point surrounded by a de-densifying periphery), to a more functional and relational focus on diverse flows between the rural and urban sectors. Recent developments point to the need for a reassessment of the changing nature of the rural-urban divide that has been transformed by new global-local forms of economic organisation and technological change. A regional networks or cluster approach may provide a better understanding of the flows and links between rural and urban areas, and of the potential for combining their mutually positive impact by promoting reciprocal interactions.⁵² This approach acknowledges the multiple ways in which contemporary urban transitions are both shaping and being shaped by a complex web of bio-physical, socio-economic and political relations through which infrastructure change might be driven from multiple and

often distant needs and decisions, often by-passing the immediate hinterland surrounding a city.

Flows of natural resources, waste and pollution affect both rural and urban areas but can be better appreciated in light of the peri-urban interface (PUI) context, where many changes in urban-rural flows lead to problems and opportunities for both peri-urban communities and the sustainable development of adjacent rural and urban systems.⁵³ These flows include the carrying capacity and ecological footprint of a city; health and environmental problems experienced by the poor; infrastructural and service deficiencies; and changing patterns in the use of natural resources. The latter

includes changes in land use as a result of land conversion and commercialisation; the use of renewable and non-renewable resources to supply food, water, energy and construction materials; and changes in waste generation as the PUI is often the backyard of urban waste disposal.

A wider look at urbanisation from this perspective shakes many of the assumptions that have underpinned the understanding of such processes for decades. Still, urban, rural and regional planning continues to be isolated from each other, with few initiatives specifically harnessing such links for the purpose of reciprocal development, and ultimately decoupling.

