

TRANSFORMING CITIES FOR SUSTAINABILITY: FACTS AND FIGURES

Kate Hawley examines how urban areas are evolving to be sustainable — their challenges, trends and solutions.

Already, 54 per cent of the world's population lives in urban regions, and projections suggest this will keep increasing until at least 2050. [1]

The shift from a rural- to an urban-dominant globe signals more strongly than ever the need to transform how cities develop. Architects, engineers, urban planners, civil society and policy makers face the challenges of creating sustainable, healthy, 'smart', 'green', adaptive, inclusive, productive, safe, flexible and resilient cities. These are just a few of the characteristics that will help urban centres thrive in the face of rising populations, growing informal settlements, pollution and environmental degradation, often combined with poor governance and service provision.

Some cities around the world are pioneering the way, helping the development community envision alternatives to mainstream models of urban development, and focusing on creating environmentally friendly ‘cities for the people’, rather than economic growth. This Spotlight shares innovative thinking in urban planning, urban design, and urban technology to highlight some of the transformative solutions that are shifting the way the world views cities.

Sustainable thinking for cities evolves

Research and thinking about sustainable cities began in the 1980s, but the term sustainability entered the global dialogue in the 1990s, introduced by the World Commission on Environment and Development. [2] In particular, the crucial role that environmental and social dimensions of human economic activities play in creating a better world surfaced during the Earth Summit in Rio in 1992. [3] Influencing those discussions, an agenda-changing report, authored by the IUCN (International Union for Conservation of Nature), WWF (World Wide Fund for Nature) and UNEP (the UN Environment Programme), highlighted how humans construct landscapes at the expense of the

environment — and urged a focus on sustainable development. [4]

As the sustainability discourse evolved, definitions and characteristics of ‘sustainable cities’ began to take form. In the late 1990s David Satterthwaite, a key expert in the field, put forward characteristics of a “successful” city. [5] He argued that a city needs to ensure healthy living and working environments, and provide infrastructure for basic services such as clean water, sanitation and waste management. He also argued that — in keeping with the basic principles of sustainable development — a city needs to exist in an equilibrium with environmental systems, for example by ensuring balanced water tables and low environmental pollution.

The definition of sustainable cities continued to grow after the 1990s, incorporating ideas on how resources might be used now without compromising their future availability. [6] Some suggested all cities must meet the needs of their residents in order for any city to be truly sustainable. [7] Yet, the definition of what makes an area urban is still elusive — cities have many varying characteristics. Areas can be

classified as urban based on: population thresholds (above a certain number of people); human densities (human count per square meter); employment proportions (those employed in the agriculture sector compared to service industries); or the existence of typical urban services like piped water, electricity and educational and health facilities. [8]

Discussions on urban sustainability then began to include spatial design and planning (known as ‘urban form’), and making cities ‘user-friendly’ through transport systems that are accessible to all. [9] Through this, definitions of urban form became more detailed — referring to dense, compact, mixed-use spaces with integrated public transportation, environmental policies and management. [10] During preparatory meetings for the URBAN21 Conference (July 2000), one of the first global conferences dedicated to urban issues, urban sustainability was defined as “improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components, without leaving a burden on the future generations”. [11] Just a few months later, the millennium development goals (MDGs) were adopted,

incorporating an environmental sustainability goal. In 2005, the World Summit on Social Development introduced the concept of economic, social and environmental ‘pillars’ of development. Now, as the post-2015 agenda develops to supersede the MDGs, negotiations are underway to secure a spot for an urban Sustainable Development Goal (Goal 11 in the current SDG draft) that will ensure green, well-planned, inclusive, resilient, productive, safe, and healthy cities.

Urban trends

The world’s urban population stands at 3.9 billion people. More than half of them live in ‘small’ cities with less than 500,000 people, while approximately 12 per cent reside in megacities (of over 10 million). [1]

Figure 1 shows how different sized cities are distributed across the globe. By 2050, an estimated two-thirds of the world’s population — about 6.2 billion people — will live in urban centres. [1] In other words, we will see urban growth (rising urban populations) and urbanisation (a higher proportion of people will live in cities). [8]

Defining city size by population

- Megacities: 10 million or more
- Large Cities: 5 to 10 million
- Medium Cities: 1 to 5 million
- Small Cities: 500,000 to 1 million

Adapted from the UN's World Urbanization Prospects

African and Asian cities have grown faster since 2000 than cities in any other part of the world (Figure 2). And more than half of these continents' populations are expected to live in cities by 2050. And by then, India, China and Nigeria alone are expected to add 2.5 billion people to their urban areas. [1]

Interestingly, the fastest growing urban settlements are not the megacities that so often hit the headlines, but the medium-sized and

smaller cities that house less than 1 million inhabitants [1]. By 2025, megacities will have accounted for just 10 per cent of global urban growth. Medium and large cities will contribute to more than half of global growth, followed closely by small cities. [12]

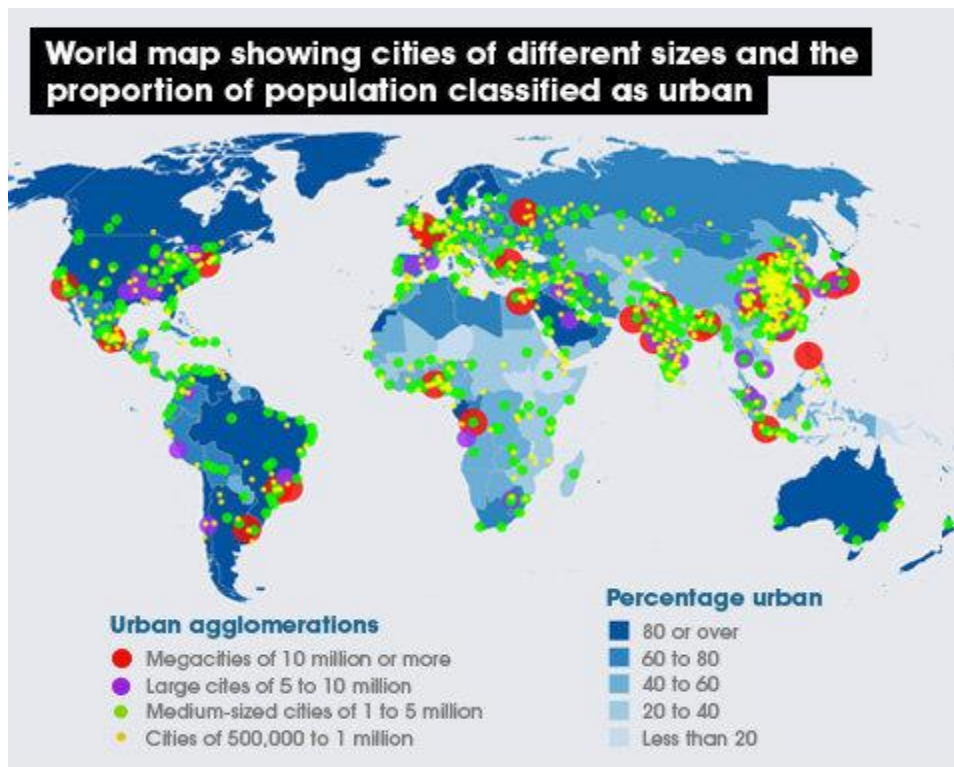


Figure 1. Interactive world map showing cities of different sizes and the proportion of population classified as urban. Source: United Nations *World Urbanization Prospects* [1]. To view an interactive version of this map via the IIED, [click here](#).

Most medium and small cities will be in low- and middle-income countries. And they often face different sustainability challenges to megacities — overall, for example, poverty rates may be higher and the challenges might relate more to the efficiency rather than availability of basic services. [1,13,14]

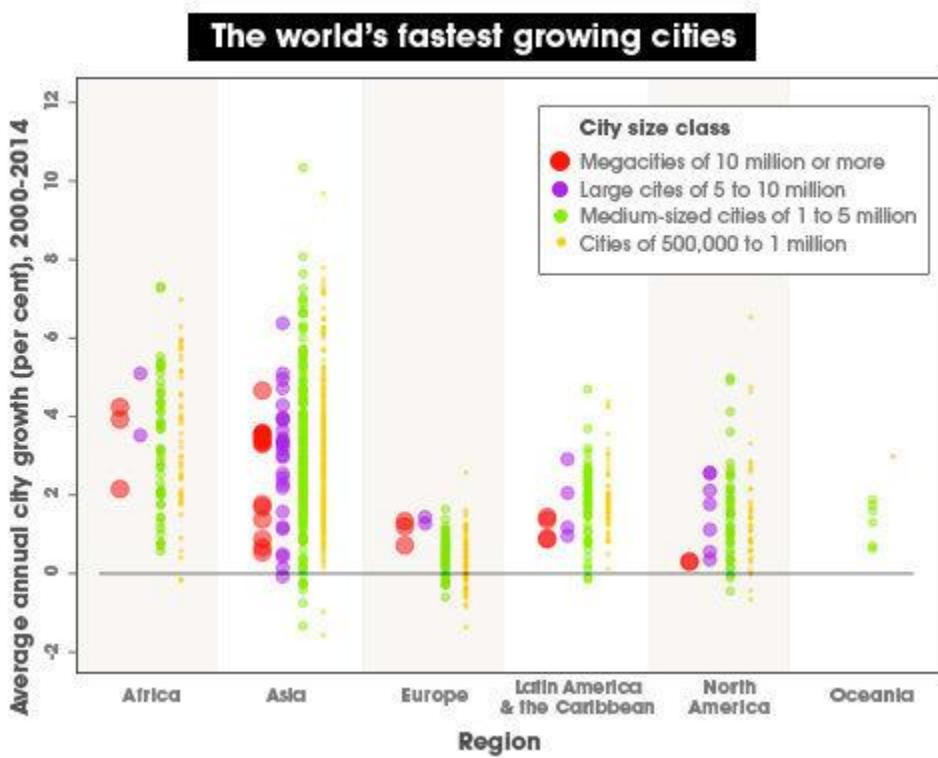


Figure 2: The world's fastest growing cities plotted by region. Source: United Nations *World Urbanization Prospects* [1]

Growth drivers and challenges

Urban growth is mostly fuelled by natural population growth and rural-to-city migration. [8] Migration is driven primarily by economic incentives such as trade, but also the search for a better quality of life.

In the first of a two-part interview, David Satterthwaite, senior fellow at the International Institute for Environment and Development, talks to Imogen Mathers about how a lack of clarity and consensus on the terms used to describe urban issues affects policy and planning. He also discusses the need to move beyond the urban-rural dichotomy in debates and policies on cities. Alongside the pressures of rising populations, cities face numerous environmental and socio-economic challenges (see Box 1).

Informal settlements (slums) that often occupy areas just outside the city centers (peri-urban locations) are arguably a unique feature of cities in the developing world. Around one in seven people — a total of 1 billion — live in informal settlements and self-built homes; this number is expected to reach 3 billion by 2050. [13] Slum dwellers face distinct challenges such as insecure land tenure and unsafe housing.

Public services such as electricity grids or sanitation infrastructure do not reach them. This, and close living quarters, increases their risk of infectious diseases. [15] However, slums are also hubs for self-employment, community development and innovation.

Source: <http://www.scidev.net/global/cities/feature/transforming-cities-sustainability-facts-figures.html>