URBANIZATION

FLOCKING TOGETHER: LIVING IN A CROWD

Humans are a gregarious species. As more and more of us move into cities, we are paving over big chunks of the planet.

In 2007, for the first time ever, more people lived in cities than in the countryside. By 2014, 54 percent of the world's population was urban; by 2050, two-thirds of us will be. Ancient cities were fairly small in modern terms; even Rome, the biggest city of antiquity, had only about 1 million people in 1 AD – about the size of present-day Birmingham in the UK or Cologne in Germany. Most people lived in the countryside and produced their own food.

Improvements in farming and the industrial revolution in northwestern Europe in the late 18th century led to the first great wave of urbanization. By 1825, London, with 1,335,000 inhabitants, had overtaken Beijing as the world's largest city. Just 75 years later, in 1900, London had nearly quintupled in size, with 6,500,000 residents.

The developed world is heavily urban: 90 percent of the population of Japan live in cities. In Australia and New Zealand 88 percent of the population is urban; in Canada and the United States the figure is 80 percent; and in Europe, 73 percent . The population growth rate in these regions is fairly stable, i.e., slow or declining, and their cities continue to grow at a relatively slow rate.

The pace of urbanization is much faster in the developing world, where the rapid growth of cities began in the 1950s. Sizable numbers of people are now flocking into the cities; this second wave of urbanization is the largest movement of people in history. With 79 percent of the population in the cities, Latin America and the Caribbean are already heavily urbanized, while Africa (38 percent) and Asia (45 percent) are more rural. Several countries in East and West Africa, including Burundi, Uganda, Ethiopia, Niger and South Sudan are less than 20 percent urban. More than four out of five people in Papua New Guinea, Nepal and Sri Lanka live in rural areas.

The world's urban population is not evenly distributed. Just a few countries, including China and India, are home to more than half of the world's city dwellers. However, most urban residents do not live in the so-called megacities of over 10 million people, but dwell in smaller centres. If the entire global population lived in one city as densely populated as Paris, the built-up area would be only the size of England.

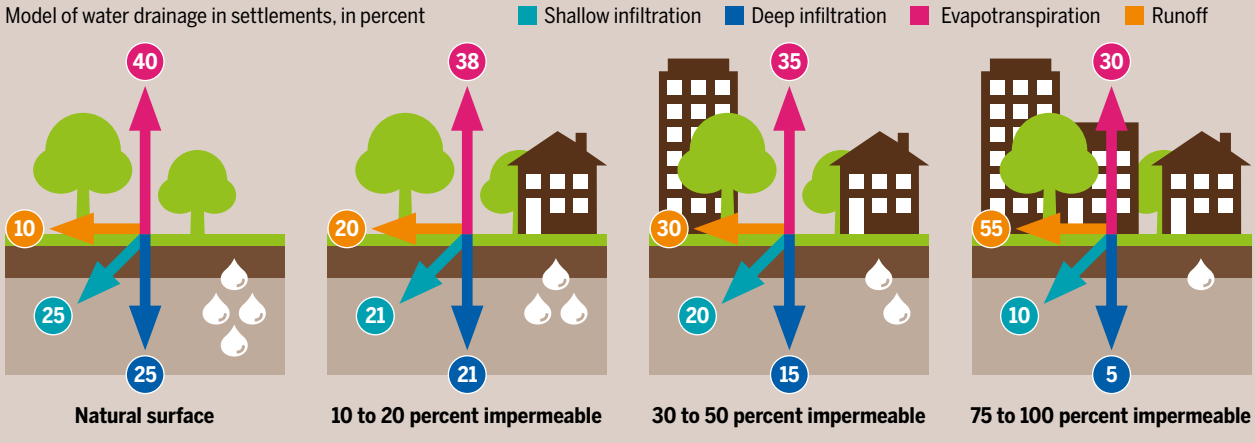
Urbanization poses many social and economic challenges: poverty, slums, overcrowding, pollution, clogged transport, unemployment, crime and violence, to name a few. It is also an environmental issue. Growing cities expand into prime agricultural land – after all, many cities were founded in places where fertile soils enabled farms to produce a surplus. This threatens future food security. The spreading city covers the ground with concrete and asphalt, stopping rainwater from sinking in and causing floods. It wrecks biodiversity, and stops the soil from absorbing carbon. It takes thousands of year for soil to form, but only minutes to destroy. Globally, urbanization causes the loss of 2 hectares of soil per minute .

In Europe, the amount of land "sealed" by concrete and asphalt depends largely on economic growth. Between 1990 and 2006, the sealed area increased by 8.8%, and in 2006, 2.3% of Europe's land surface was covered by artificial surfaces of one type or another. In Germany, the figure is 5 per-

Climate change increases the risk of floods. Preventing them is a major challenge for urban planners

RAINFALL AND SEALED SOIL SURFACES

Model of water drainage in settlements, in percent



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SMALLER CITIES ARE GROWING TOO

Predicted demographic trends

City size and average annual population growth, in percent, 2010–2025

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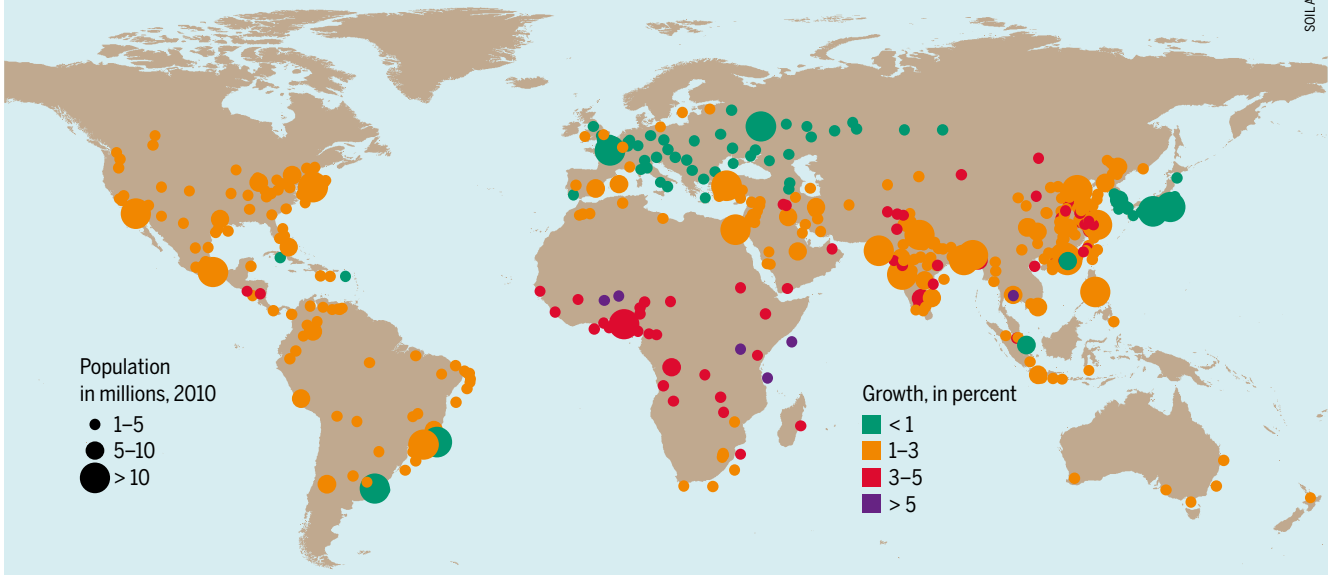
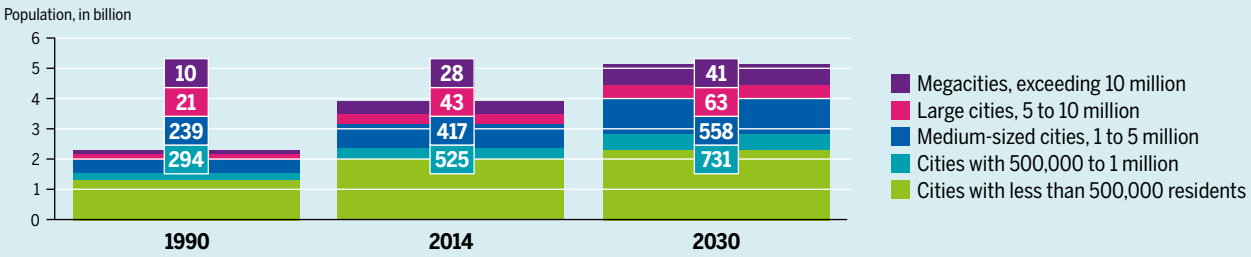


Number of cities in each size category and their total population, 1990–2030



Urban populations are growing fast – especially in Africa and Asia – and city areas are expanding even faster

cent, and the country is still converting another 77 hectares a day – larger than 100 football pitches – for transportation purposes and residential use. European governments are trying to reduce the amount of concrete used, but Germany is unlikely to reduce its land conversion rate to the targeted 30 hectares per day by 2020.

It should be possible to reduce the amount of soil lost when cities are designed. Greener cities would be denser and more compact; commercial areas would be scattered throughout the city, rather than spread out on the edges. This would avoid paving over large areas, shorten transport distances, make way for open landscapes and gardens, and result in a smaller ecological footprint.

The uses of land in natural, agricultural and urban areas differ greatly. However, their soils share many features in terms of biodiversity and ecosystem services. The decision-making trade-offs may be surprisingly similar. In urban areas it may be possible to apply the same sustainable management measures, such as a rational spatial arrangement, that are designed for agricultural landscapes.

Hectare by hectare – urban growth eats up the fields that used to provide the cities with food

LAND LOSS IN THE EU

Reduction of arable area and crop production in selected countries

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