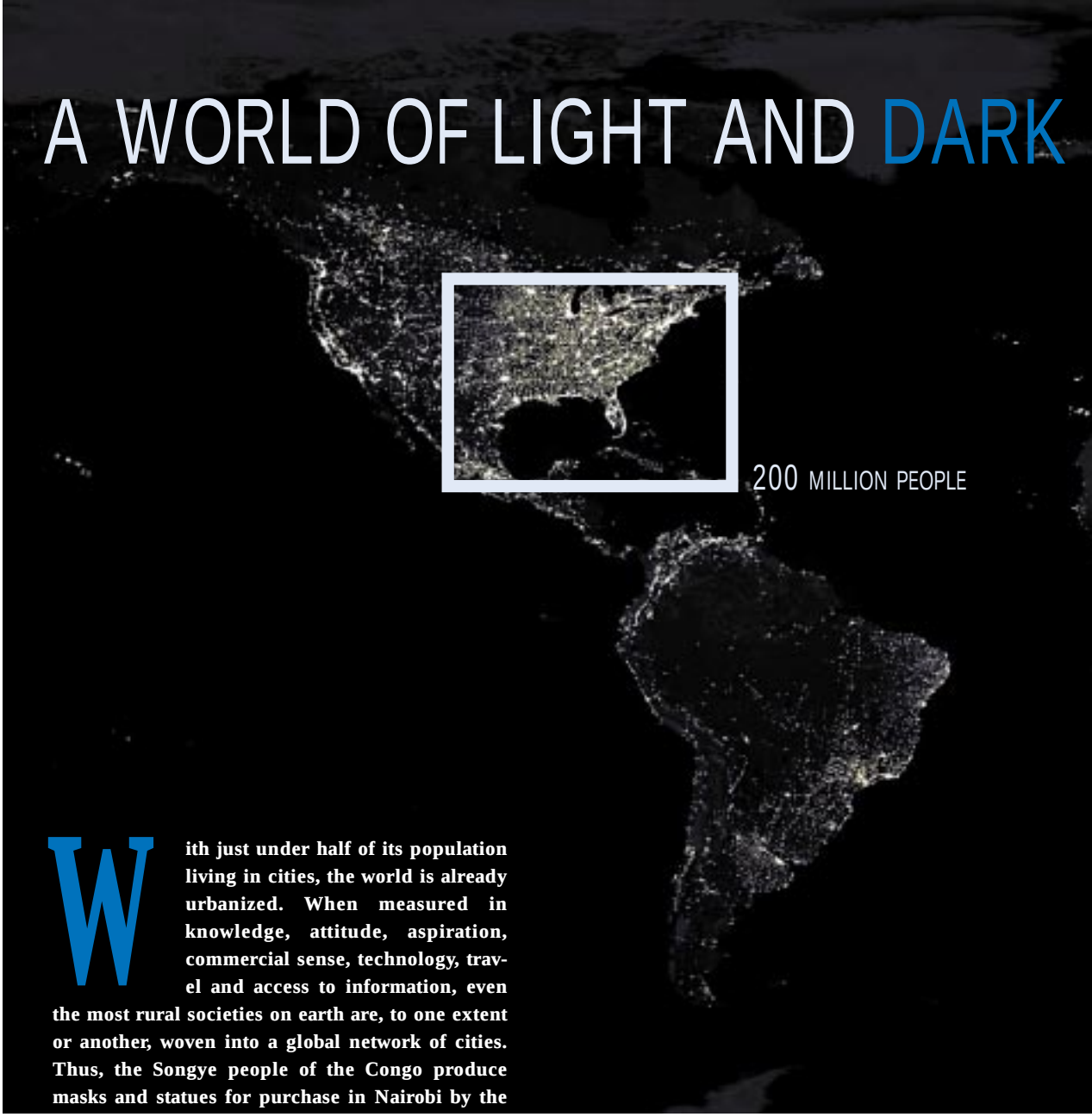
A WORLD OF LIGHT AND DARK



With just under half of its population living in cities, the world is already urbanized. When measured in knowledge, attitude, aspiration, commercial sense, technology, travel and access to information, even the most rural societies on earth are, to one extent or another, woven into a global network of cities. Thus, the Songye people of the Congo produce masks and statues for purchase in Nairobi by the owner of a Milanese Africana shop. A Canadian rancher flies his own plane to Vancouver to meet a friend from San Francisco. A Brazilian placer miner uses his cell phone to monitor gold prices in London through a broker in São Paolo. A Kazakh folk singer places her music on the Internet in Alma Ata for downloading by a scholar in Shanghai. And a Peruvian expatriate in Perth responds with help to a call, again over the Internet, from the priest in a flooded village in Peru.

The industrial revolution of the late 18th century began the current phase of globalization. In less than one hundred years, the steam engine, telegraph, telephone and elevator were conveying people, goods and ideas both horizontally and vertically at an unprecedented volume and velocity. Now, in less than another century, low-cost international air transport, digital telecommunication and liberalized trade have the global economy moving at "warp speed."

The focal point of global economic activity has invariably been the city, a place of deals and decisions, take-offs and landings - a place less concerned with the rhythms of nature, where everything can be bought and sold, especially one's ideas and labour.

During the past two hundred years of global economic expansion, the collective population of the world's cities grew from less than 30 million to 3 billion - from one in thirty of the earth's inhabitants to every other person on earth. Now at the beginning of the new century and millennium, the planet hosts 19 cities with 10 million or more people; 22 cities with 5 to10 million people; 370 cities with 1 to 5 million people; and 433 cities with 0.5 to 1 million. Another 1.5 billion people live in urban areas of less than half a million people. The process of urbanization will continue well into the 21st century and, by 2030, over 60 percent of all people (4.9 billion out of 8.1 billion) will live in cities[1].

As isolated seats of power from which to govern rural holdings, cities were, throughout most of recorded history, exceedingly small islands in a vast ocean of rural culture and tradition. With the advent of the industrial age, humanity rapidly evolved into a city-dwelling species that is intensely competitive but at the same time cooperative, specialized yet adaptable. *Homo urbanus* is identified by dense living patterns, a

Source: NOAA

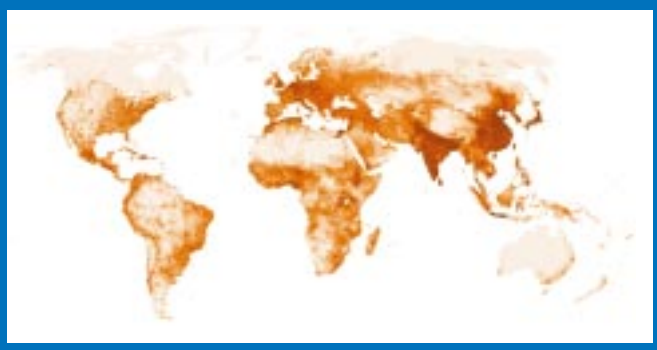
tolerant acceptance of strangers, predictable behaviour based on agreed rules (but with lifestyle variations within the rules), access to great amounts of information and an almost total disconnection from the natural world.

Urbanization in the twentieth century established a world network of competitive centres that set the physical reference points for today's globalization. During the great rural-to-urban population shifts over the past half-century, cities became supermarkets for employment, incubators of technology, suppliers of social services and shelter, portals to the rest of the world, processors of agricultural produce, adders of manufactured value, centres of learning, and, above all, places to make money through trade, industry, finance, real estate and, of course, attendant crime and corruption.

In today's globalized world, cities no longer stand apart as islands. They are the nexus of commerce, gateways to the world in one direction and focus of their own hinterlands in the other. Tied together in a vast three-dimensional web of communication and transport, cities are concentrations of energy in a global force field, appearing fixed as concrete and steel.

World cities in this urban millennium may be governed more by Quantum theory and Einsteinian relativity than by Newtonian physics and Euclidian geometry. As in quantum physics, simply

Two global views

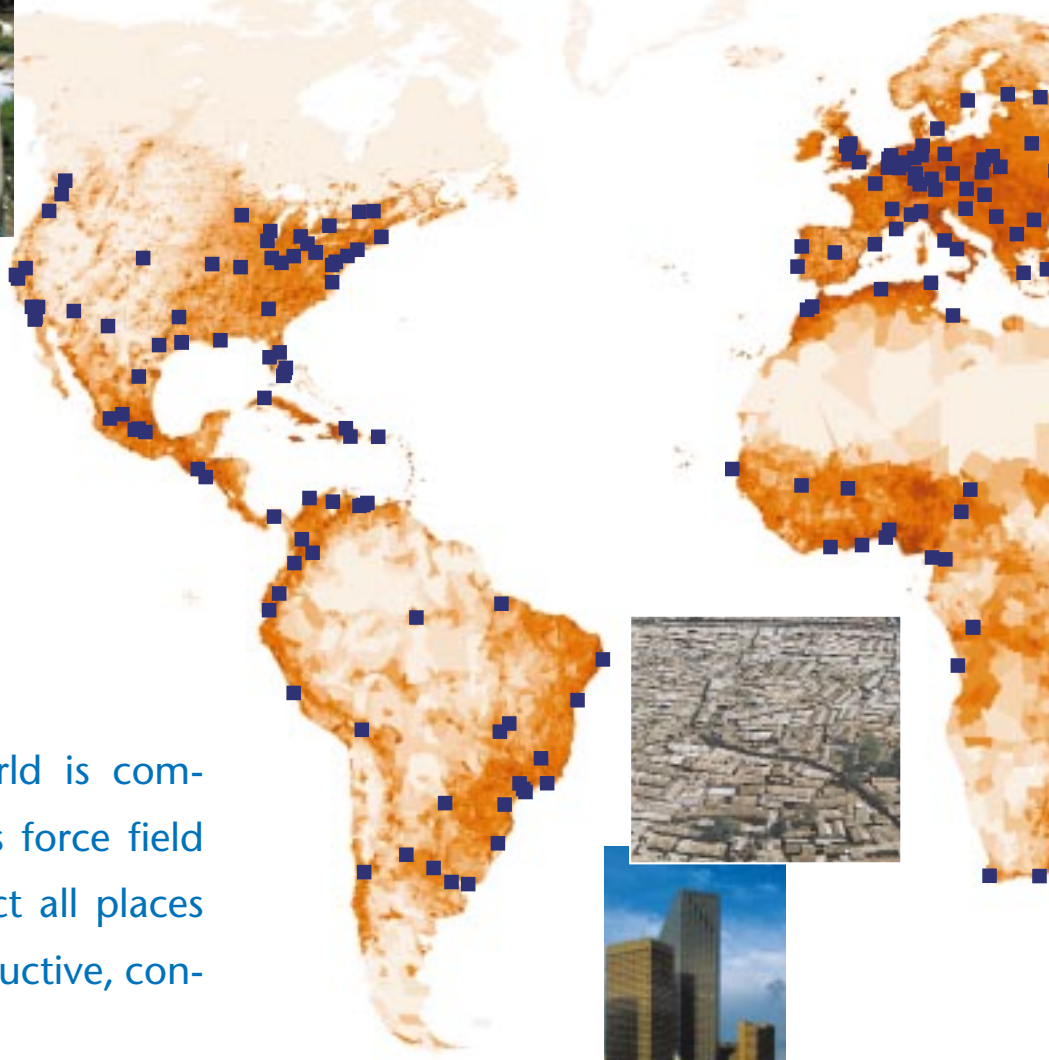


Demographic information is often provided on a national basis, but global environmental and other cross-disciplinary studies usually require data that are referenced by geographic coordinates, such as latitude and longitude, rather than by political or administrative units. In this Gridded Population of the World (GPW) data set, the distribution of human population is converted from national or sub-national units to a series of geo-referenced quadrilateral grids. Source: Center for International Earth Science Information Network (CIESIN),Columbia University; International Food Policy Research Institute (IFPRI);and World Resources Institute (WRI). 2000. Gridded Population of the World (GPW), Version 2. Palisades, NY: CIESIN, Columbia University. Available at http://sedac.ciesin.columbia.edu/plue/gpw

The Nighttime Lights of the World dataset was compiled from 6 months of nighttime orbits (October 1994 - March 1995) collected during the dark half of the lunar cycle. Each orbit was examined for clouds using the thermal infrared band. Areas affected by clouds were removed from consideration. A light filter selected pixels greater than 4 standard deviations above the local background (a 100 x 100 pixel area). The selected lights were counted (counts) and divided by the number of times it would have been possible to detect the light (number of cloud-free coverages). The resulting percentage values (0-100) were examined for noise from aurora, bad scan lines, lightning, magnetic anomalies, etc. The remaining pixels were separated into bands for lights, fires, gas flares, and boats. Source: Image and data processing were by the United States National Oceanic and Atmospheric Administration's National Geophysical Data Center. DMSP data were collected by US Air Force Weather Agency.

Shadley Lombard/Topham Picturepoint/UNEP

Source: Center for International Earth Science Information Network (CIESIN), Columbia University



In a real sense, the world is completely urbanized, as this force field has the power to connect all places and all people into a productive, constantly adapting unity.

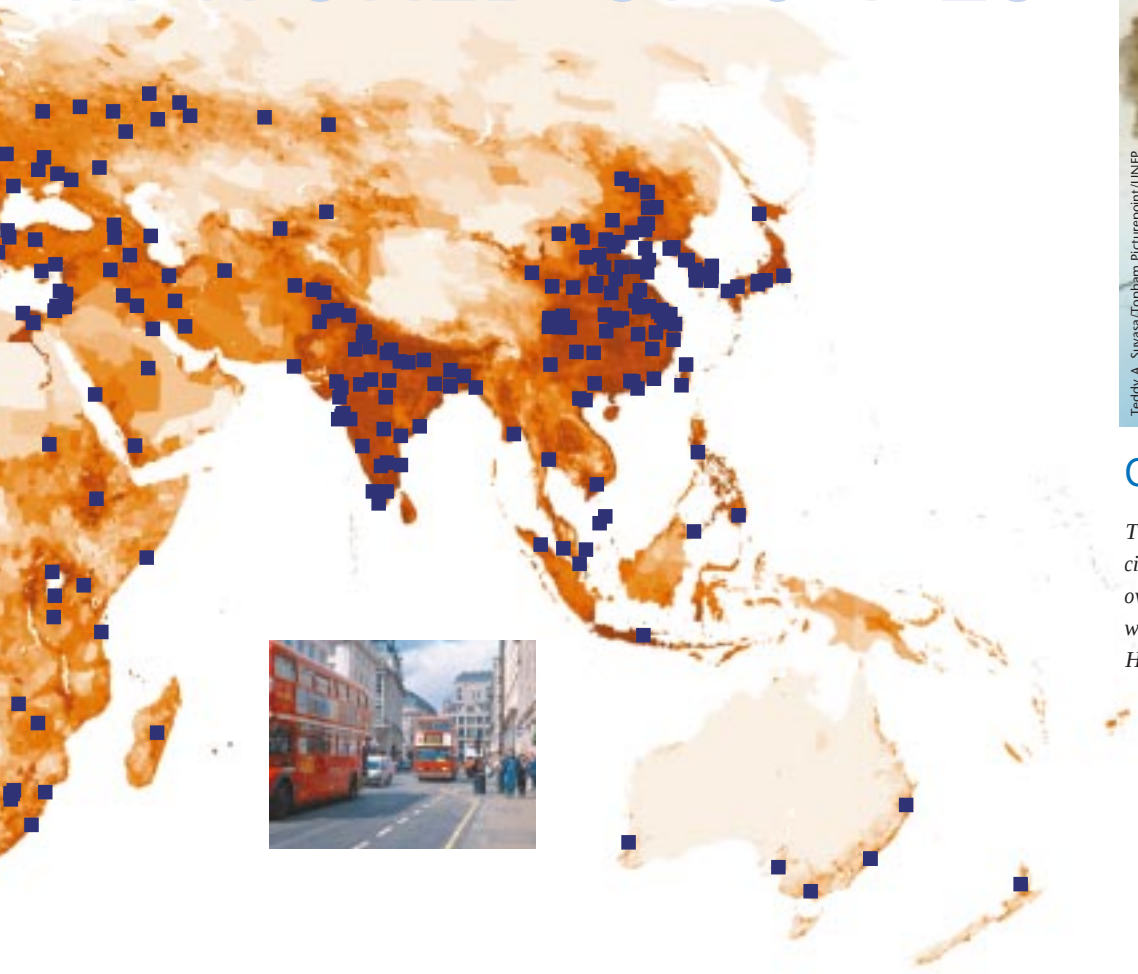
observing the city can change it, as the political economy responds to public awareness and investor confidence. Almost meta-physically, with minimal regard to space, every place becomes every other place, because distance is measured in nano- and pico-seconds not just kilometres. Innovations and information arrive in waves washing over the whole planet at once, and cities scramble to gain the latest advantage - for as long as it lasts. In a real sense, the world is completely urbanized, as this force field has the power to connect all places and all people into a productive, constantly adapting unity.

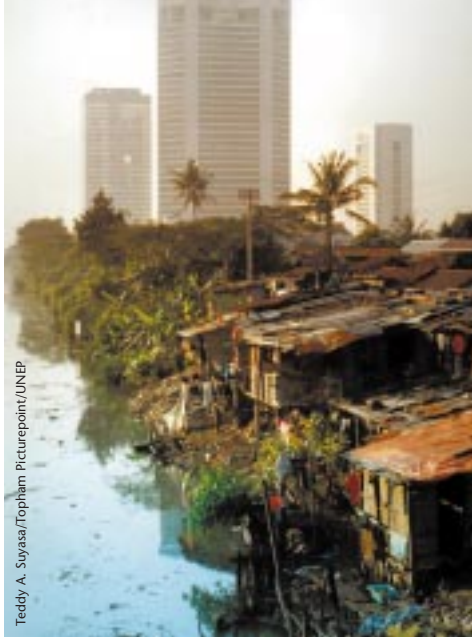
The picture on the preceding page illustrates this metaphor in an image of the inhabited world as chains and nets of intense light reflected into the nighttime skies. Most of the light is produced by the world's cities and is an indicator of their accumulated productive strength - as primate, or single metropolitan agglomerations in some countries, hierarchies of places in others. In almost every country, the city's share of national output is much higher than its share of the population. Lima, for example, has less than 30 percent of Peru's population but produces over 40 percent of its national output. Bangkok, in an even more dramatic example produces nearly 40 percent of Thailand's output with just over 12 percent of its population, nearly the same ratio of production to population as São Paolo, Brazil.[2]

Cities are the generators of national development, which invariably starts with migration. Opportunity is the attractor. The rural poor, the attracted. In an urbanizing world, cities, with all their demand and promise, harvest the countryside of people who can no longer tolerate the limitations of rural life or who simply see urban life as presenting more options for livelihood. Rural to urban migration is naturally greater where the benefits of development (that is, decent wages, adequate shelter, longer life) have not been well-distributed over the national landscape.

Fifteen years ago, the urban growth rate of developing countries (3.8%) was over four times that of developed countries (0.9%), which had already urbanized. In the coming years, the rate of urban-

A WORLD OF CITIES





Teddy A. Suyasa/Topham Picturepoint/UNEP

City Life

The map on the left depicts the 375 largest cities in the world - all with populations over 1 million - overlaid on the gridded world population map.
Homo urbanus is thriving.

ization for developing countries will have slowed dramatically compared to the earlier rates.[3] This is natural as excess rural population becomes fully absorbed and because fertility rates tend to decline with urbanization.

Taking a closer look at the nighttime satellite image, one sees black holes in the fabric of light covering the continents. Swaths of darkness, most remarkably stretching across much of populated Africa, imply exclusion from the modern productive world. The darkness signals a parallel universe where individuals, families, communities, cities and whole countries may be disconnected, not part of the global economic grid.

Has the global economy bypassed these areas? Or, has urbanization generated insufficient energy to reach a visible threshold? Could one, if sufficiently sensitive, detect low intensity energy emanating from cities and communities within the dark patches? And, if so, would that potential force be on the verge of extinction or would it be just powering up?

Compare, also, the brightest metropolitan clusters of eastern North America with the relatively low levels of light emitted by five times as many people in India. Which is more sustainable? Which more amenable? Are the energy-rich cities of highly industrialized countries now what others could become? Or, do they form an exclusive global club, where the privileged and wealthy members are unwilling, or unable, to open the doors to others?

To answer these questions, one must examine many cities, over time, from all angles and all levels - from the global satellite overview to the gritty footpath of the shanty town. Starting with this 2001 edition, the State of the World's Cities series will take the reader through Africa, the Arab States, Asia and the Pacific, the highly industrialized countries, Latin America and the Caribbean and the countries with economies in transition - to understand better how shelter, society, environment, economy and, above all, systems of governance can contribute to urban vibrancy and viability in a globalizing world. From periodic enquiry and regular assessment of urban conditions and trends, practical notions will emerge about how *homo urbanus* can realize a more sustainable and liveable habitat.