Rapid Urbanization

CAN CITIES COPE WITH RAMPANT GROWTH?

About 3.3 billion people — half of Earth's inhabitants — live in cities, and the number is expected to hit 5 billion within 20 years. Most urban growth today is occurring in developing countries, where about a billion people live in city slums. Delivering services to crowded cities has become increasingly difficult, especially in the world's 19 "megacities" — those with more than 10 million residents. Moreover, most of the largest cities are in coastal areas, where they are vulnerable to flooding caused by climate change. Many governments are striving to improve city life by expanding services, reducing environmental damage and providing more jobs for the poor, but some still use heavy-handed clean-up policies like slum clearance.

Researchers say urbanization helps reduce global poverty because new urbanites earn more than they could in their villages. The global recession could reverse that trend, however, as many unemployed city dwellers return to rural areas. But most experts expect rapid urbanization to resume once the economic storm has passed.

The sprawling Morumbi favela, or slum, bumps up against the high-rises of São Paulo, Brazil — the fifth-largest city in the world. By 2030, at least 60 percent of the globe's population will live in cities, reflecting unprecedented urban growth in the developing world.

Rapid Urbanization

Cover: AP Photo/Alexandre Meneghini

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BY JENNIFER WEEKS

THE ISSUES

India's most infamous slum lives up to its reputation. Located in the middle of vast Mumbai, Dharavi is home to as many as 1 million people densely packed into thousands of tiny shacks fashioned from scrap metal, plastic sheeting and other scrounged materials. Narrow, muddy alleys crisscross the 600-acre site, open sewers carry human waste and vacant lots serve as garbage dumps. There is electricity, but running water is available for only an hour or so a day. Amid the squalor, barefoot children sing for money, beg from drivers in nearby traffic or work in garment and leather shops, recycling operations and other lightly regulated businesses.

Moviegoers around the globe got a glimpse of life inside Dharavi in last year's phenomenally popular Oscar-winning film "Slumdog Millionaire," about plucky Jamal Malik, a fictional Dharavi teenager who improbably wins a TV quiz-show jackpot. The no-holds-barred portrayal of slum life may have been shocking to affluent Westerners, but Dharavi is only one of Asia's innumerable slums. In fact, about a billion people worldwide live in urban slums — the ugly underbelly of the rapid and haphazard urbanization that has occurred in many parts of the world in recent decades. And if soaring urban growth rates continue unabated, the world's slum population is expected to double to 2 billion by 2030, according to the U.N. [1]

But all city dwellers don't live in slums. Indeed, other fast-growing cities presented cheerier faces to the

Children scavenge for recyclables amid rubbish in the Dharavi slum in Mumbai, India. About a billion people worldwide live in slums — where sewer, water and garbage-collection services are often nonexistent. If impoverished rural residents continue streaming into cities at current rates, the world's slum population is expected to double to 2 billion within the next two decades, according to the United Nations.

AFP/Getty Images/Rob Elliott

world last year, from Dubai's glittering luxury skyscrapers to Beijing's breathtaking, high-tech pre-Olympic cultural spectacle.

Today, 3.3 billion people live in cities — half the world's population — and urbanites are projected to total nearly 5 billion (out of 8.1 billion) worldwide by 2030. [2] About 95 percent of that growth is occurring in the developing world, especially in Africa and Asia. [3]

These regions are going through the same threefold evolution that transformed Europe and North America over a 200-year period between 1750 and 1950: the industrialization of agriculture, followed by rural migration to cities and declining population growth as life ex-

pectancy improves. But today's developing countries are modernizing much faster — typically in less than 100 years — and their cities are expanding at dizzying rates: On average, 5 million people in developing countries move to cities every month. As urban areas struggle to absorb this growth, the new residents often end up crowded into already teeming slums. For instance, 62 percent of city dwellers in sub-Saharan Africa live in slums, 43 percent in southern Asia, 37 percent in East Asia and 27 percent in Latin America and the Caribbean, according to UN-HABITAT, the United Nations agency for human settlements. [4]

UN-HABITAT defines a slum as an urban area without at least one of the following features:

- Durable housing,
- Adequate living space (no more than three people per room),
- Access to clean drinking water,
- Access to improved sanitation (toilets or latrines that separate human waste from contact with water sources), or
- Secure property rights. [5]

But all slums are not the same. Some lack only one basic necessity, while others lack several. And conditions can be harsh in non-slum neighborhoods as well. Thus, experts say, policies should focus on specific local problems in order to make a difference in the lives of poor city dwellers. [6]

Cities "are potent instruments for national economic and social development. They attract investment and create wealth," said HABITAT Executive Director Anna Tibaijuka last April. But, she warned, cities also concentrate

World Will Have 26 Megacities by 2025

The number of megacities — urban areas with at least 10 million residents — will increase from 19 to 26 worldwide by the year 2025, according to the United Nations. The seven new megacities will be in Asia and sub-Saharan Africa. Most megacities are in coastal areas, making them highly vulnerable to massive loss of life and property damage caused by rising sea levels that experts predict will result from climate change in the 21st century.

Moscow

Los Angeles/ Long Beach/ Santa Ana

New York, N.Y./ Newark, N.J.

UNITED STATES OF AMERICA

Istanbul

TURKEY

Shenzhen

JAPAN

Beijing

CHINA

Cairo

Lahore

Tokyo

Shanghai

Osaka/Kobe

PAKISTAN

Dhaka

EGYPT

Delhi

BANGLADESH

Guangzhou/ Guangdong

MEXICO

Karachi

INDIA

Mexico City

Mumbai

Kolkata

Manila

NIGERIA

Chennai

PHILIPPINES

Lagos

DEM. REPUBLIC OF THE CONGO

BRAZIL

Kinshasa

INDONESIA

Rio de Janeiro

Jakarta

São Paulo

Buenos Aires

ARGENTINA

● Megacities Existing in 2007

● New Megacities in 2025

Source: UN-HABITAT

poverty and deprivation, especially in developing countries. "Rapid and chaotic urbanization is being accompanied by increasing inequalities, which pose enormous challenges to human security and safety." [7]

Today, improving urban life is an important international development priority. [8] One of the eight U.N. Millennium Development Goals (MDGs) — broad objectives intended to end poverty worldwide by 2015 — endorsed by world leaders in 2000 was environmental sustainability. Among other things, it aims to cut in half the portion of the world's people without access to safe drinking water and achieve "significant improvement" in the lives of at least 100 million slum dwellers. [9]

Delivering even the most basic city services is an enormous challenge in many of the world's 19 megacities — metropolises with more than 10 million residents. And smaller cities with fewer than 1 million inhabitants are growing even faster in both size and number than larger ones. [10]

Many fast-growing cities struggle with choking air pollution, congested traffic, polluted water supplies and inadequate sanitation services. The lack of services can contribute to larger social and economic problems. For example, slum dwellers without permanent housing or access to mass transit have trouble finding and holding jobs.

And when poverty becomes entrenched it reinforces the gulf between rich and poor, which can promote crime and social unrest.

"A city is a system of systems. It has biological, social and technical parts, and they all interact," says George Bugliarello, president emeritus of Polytechnic University in New York and foreign secretary of the National Academy of Engineering. "It's what engineers call a complex system because it has features that are more than the sum of its parts. You have to understand how all of the components interact to guide them."

Improving life for the urban poor begins with providing shelter, sanitation and basic social services like health care and education. But more is needed to make cities truly inclusive, such as guaranteeing slum dwellers' property rights so they cannot be ejected from their homes. [11]

Access to information and communications technology (ICT) is also crucial. In some developing countries, ICT has been adopted widely, particularly cell phones, but high-speed Internet access and computer use still lag behind levels in rich nations. Technology advocates say this "digital divide" slows economic growth in developing nations and increases income inequality both within and between countries. Others say the problem has been exaggerated and that there is no critical link between ICTs and poverty reduction.

Managing urban growth and preventing the creation of new slums are keys to both improving the quality of life and better protecting cities from natural disasters. Many large cities are in areas at risk from earthquakes, wildfires or floods. Squatter neighborhoods are often built on flood plains, steep slopes or other vulnerable areas, and poor people usually have fewer resources to escape or relocate.

For example, heavy rains in northern Venezuela in 1999 caused mudslides and debris flows that demolished many hillside shantytowns around the capital city of Caracas, killing some 30,000 people. In 2005 Hurricane Katrina killed more people in New Orleans' lower-income neighborhoods,

Tokyo Is by Far the World's Biggest City

With more than 35 million residents, Tokyo is nearly twice as big as the next-biggest metropolises. Tokyo is projected to remain the world's largest city in 2025, when there will be seven new megacities — urban areas with at least 10 million residents. Two Indian cities, Mumbai and Delhi, will overtake Mexico City and New York as the world's second- and third-largest cities. The two largest newcomers in 2025 will be in Africa: Kinshasa and Lagos.

Population of Megacities, 2007 and 2025
(in millions)

2007		2025 (projected)	
Tokyo, Japan	35.68	Tokyo, Japan	36.40
New York, NY/Newark, NJ	19.04	Mumbai, India	26.39
Mexico City, Mexico	19.03	Delhi, India	22.50
Mumbai, India	18.98	Dhaka, Bangladesh	22.02
São Paulo, Brazil	18.85	São Paulo, Brazil	21.43
Delhi, India	15.93	Mexico City, Mexico	21.01
Shanghai, China	14.99	New York, NY/Newark, NJ	20.63
Kolkata, India	14.79	Kolkata, India	20.56
Dhaka, Bangladesh	13.49	Shanghai, China	19.41
Buenos Aires, Argentina	12.80	Karachi, Pakistan	19.10
Los Angeles/Long Beach/ Santa Ana (CA)	12.50	Kinshasa, Dem. Rep. Congo	16.76
Karachi, Pakistan	12.13	Lagos, Nigeria	15.80
Cairo, Egypt	11.89	Cairo, Egypt	15.56
Rio de Janeiro, Brazil	11.75	Manila, Philippines	14.81
Osaka/Kobe, Japan	11.29	Beijing, China	14.55
Beijing, China	11.11	Buenos Aires, Argentina	13.77
Manila, Philippines	11.10	Los Angeles/Long Beach/ Santa Ana (CA)	13.67
Moscow, Russia	10.45	Rio de Janeiro, Brazil	13.41
Istanbul, Turkey	10.06	Jakarta, Indonesia	12.36
		Istanbul, Turkey	12.10
		Guangzhou/Guangdong, China	11.84
		Osaka/Kobe, Japan	11.37
		Moscow, Russia	10.53
		Lahore, Pakistan	10.51
		Shenzhen, China	10.20
		Chennai, India	10.13

New megacities in 2025

Source: UN-HABITAT

Global Population Is Shifting to Cities

Half a century ago, less than a third of the world's population lived in cities. By 2005, nearly half inhabited urban areas, and in 2030, at least 60 percent of the world's population will be living in cities, reflecting an unprecedented scale of urban growth in the developing world. This will be particularly notable in Africa and Asia, where the urban population will double between 2000 and 2030.

Worldwide Urban and Rural Populations

1955

Urban
850 million
(30%)

Rural
1.91 billion
(70%)

2005

Rural
3.31 billion
(51%)

Urban
3.15 billion
(49%)

2030

Rural
3.2 billion
(40%)

Urban
4.9 billion
(60%)
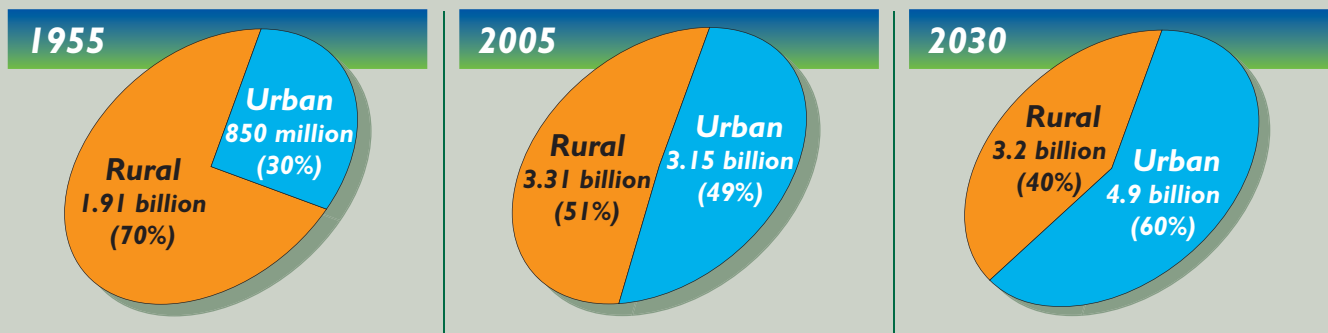
Source: U.N. Department of Economic and Social Affairs; U.N. Population Fund

which were located in a flood plain, than in wealthier neighborhoods of the Louisiana port city that were built on higher ground. As global warming raises sea levels, many of the world's largest cities are expected to be increasingly at risk from flooding.

Paradoxically, economic growth also can pose a risk for some cities. Large cities can be attractive targets for terrorist attacks, especially if they are symbols of national prosperity and modernity, such as New York City, site of the Sept. 11, 2001, attack on the World Trade Center. Last November's coordinated Islamic terrorist attacks in Mumbai followed a similar strategy: Landmark properties frequented by foreigners were targeted in order to draw worldwide media coverage, damage India's economy and send a message that nowhere in India was safe. [12]

Today the global economic recession is creating a new problem for city dwellers: Entry-level jobs are disappearing as trade contracts evaporate and factories shut down. Unable to find other jobs, many recent migrants to cities are returning to rural areas that are ill-prepared to receive them, and laborers who remain in cities have less money to send to families back home. [13]

As national leaders, development experts and city officials debate how to manage urban growth, here are some issues they are considering:

Does urbanization make people better off?

With a billion city dwellers worldwide trapped in slums, why do people keep moving to cities? Demographic experts say that newcomers hope to earn higher incomes and find more opportunities than rural areas can offer.

"Often people are fleeing desperate economic conditions," says David Bloom, a professor of economics and demography at Harvard University's School of Public Health. "And the social attractions of a city — opportunities to meet more people, escape from isolation or in some cases to be anonymous — trump fears about difficult urban conditions. If they have relatives or friends living in cities already, that reduces some of the risk."

When nations attract foreign investment, it creates new jobs. In the 1990s both China and India instituted broad economic reforms designed to encourage foreign investment, paving the way for rapid economic growth. That growth accelerated as information technology advances like the Internet, fiber-optic networks and e-mail made it faster and cheaper to communicate worldwide in real time. [14] As a result, thousands of manufacturing and white-collar jobs were "outsourced" from the United States to India, China and other low-wage countries over the past decade. [15]

These jobs spurred major growth in some cities, especially in areas with educated, English-speaking work forces. The large southern Indian city of Bangalore became a center for information technology — dubbed "India's Silicon Valley." Other cities in India, Singapore and the Philippines now host English-language call centers that manage everything from computer technical support to lost-baggage complaints for airlines. In a twist on this model, the Chinese city of Dalian — which was controlled by Japan from

1895 through World War II and still has many Japanese speakers — has become a major outsourcing center for Japanese companies. [16]

Some observers say an increasingly networked world allows people to compete for global "knowledge work" from anywhere in the world instead of having to emigrate to developed countries. In his best-seller *The World Is Flat*, author and *New York Times* columnist Thomas Friedman cites Asian call centers as an example of this shift, since educated Indians can work at the centers and prosper at home rather than seeking opportunity abroad. While he acknowledges that millions of people in developing countries are poor, sick and disempowered, Friedman argues that things improve when people move from rural to urban areas.
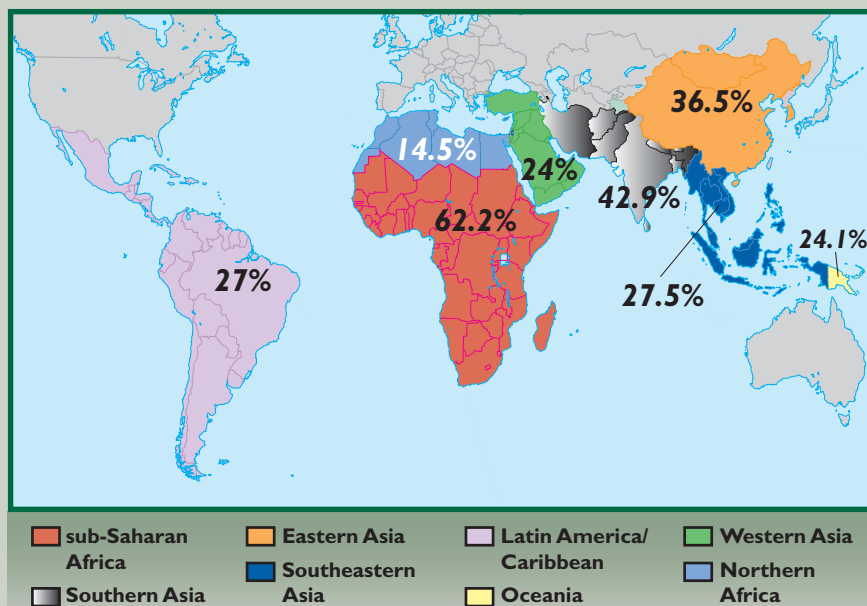
"[E]xcess labor gets trained and educated, it begins working in services and industry; that leads to innovation and better education and universities, freer markets, economic growth and development, better infrastructure, fewer diseases and slower population growth," Friedman writes. "It is that dynamic that is going on in parts of urban India and urban China today, enabling people to compete on a level playing field and attracting investment dollars by the billions." [17]

But others say it's not always so simple. Educated newcomers may be able to find good jobs, but migrants without skills or training often end up working in the "informal economy" — activities that are not taxed, regulated or monitored by the government, such as selling goods on the street or collecting garbage for recycling. These jobs are easy to get but come without minimum wages or labor standards, and few workers can get credit to grow their businesses. Members of ethnic minorities and other underprivileged groups, such as lower castes in India, often are stuck with the dirtiest and most dangerous and difficult tasks. [18]

Most African City Dwellers Live in Slums

Most of the world's slum dwellers are in developing countries, with nearly two-thirds of sub-Saharan Africa's city dwellers living in slums.

Percentage of Urban Populations Living in Slums, by Region

Legend:
- sub-Saharan Africa
- Southern Asia
- Eastern Asia
- Southeastern Asia
- Latin America/Caribbean
- Oceania
- Western Asia
- Northern Africa

Source: UN-HABITAT, State of the World's Cities 2008-2009

And some countries have experienced urban growth without job growth. Through the late 1980s, many Latin American countries tried to grow their economies by producing manufactured goods at home instead of importing them from abroad.

"Years of government protection insulated these industries from outside competition, so they did not feel pressure to become more productive. Then they went under when economies opened up to trade," says Steven Poelhekke, a researcher with DNB, the national bank of the Netherlands. "In Africa, industrialization has never really taken off. And without job creation governments cannot deliver benefits for new urbanites." [19]

Meanwhile, when cities grow too quickly, competition for land, space, light and services increases faster than government can respond. Real estate prices rise, driving poor residents into squatter neighborhoods, where crowding and pollution spread disease. "When cities get too big, the downsides to city life are bigger than the benefits for vulnerable inhabitants," says Poelhekke.

Broadly, however, urbanization has reduced the total number of people in poverty in recent years. According to a 2007 World Bank study, about three-quarters of the world's poor still live in rural areas. Poor people are urbanizing faster than the population as a whole, so some poverty is shifting to cities. Yet, clearly, many of those new urbanites are finding higher incomes — even if they end up living in city slums — because overall poverty rates (urban plus rural) fall as countries urbanize. While the persistence of urban poverty is a serious concern, the authors concluded, if people moved to

Packed buses in Dhaka take residents in the Bangladeshi capital to their homes in outlying villages on the eve of the Muslim holiday Eid al-Adha — the "Festival of Sacrifice." Rapidly growing cities have trouble keeping up with the transportation needs of residents.

the cities faster, overall poverty rates would decline sooner. [20]

Many development advocates say policy makers must accept urbanization as inevitable and strive to make it more beneficial. "We need to stop seeing migration to cities as a problem," says Priya Deshingkar, a researcher at the Overseas Development Institute in Hyderabad, India. "These people were already vulnerable because they can't make a living in rural areas. Countries need to rethink their development strategies. The world is urbanizing, and we have to make more provisions for people moving to urban areas. They can't depend on agriculture alone."

Should governments limit migration to cities?

Many governments have tried to limit urban problems by discouraging migration to cities or regulating the pace of urban growth. Some countries use household registration policies, while others direct aid and economic development funds to rural areas. Political leaders say limiting migration reduces strains on city systems, slows

the growth of slums and keeps villages from languishing as their most enterprising residents leave.

China's *hukou* system, for example, requires households to register with the government and classifies individuals as rural or urban residents. Children inherit their *hukou* status from their parents. Established in the 1950s, the system was tightly controlled to limit migration from agricultural areas to cities and to monitor criminals, government critics and other suspect citizens and groups. [21]

In the late 1970s China began privatizing farming and opened its economy to international trade, creating a rural labor surplus and greater demand for city workers. The government offered rural workers temporary residence permits in cities and allowed wealthy, educated citizens to buy urban *hukou* designations. Many rural Chinese also moved to cities without changing their registration. According to recent government estimates, at least 120 million migrant workers have moved to Chinese cities since the early 1980s. [22] Today *hukou* rules are en-

forced inconsistently in different Chinese cities, where many rural migrants cannot get access to health care, education, affordable housing or other urban services because they are there illegally.

Chinese officials say they must manage growth so all areas of the country will benefit. In a 2007 report to the 17th Communist Party Congress, President Hu Jintao promised to promote "a path of urbanization with Chinese characteristics" that emphasized "balanced development of large, medium-sized and small cities and towns." [23]

But critics say the *hukou* system has created an urban underclass and should be scrapped. When the municipality of Chongqing (which omits an estimated 4.5 million migrant workers from its official population figures) established November 4 as Migrant Workers' Day in 2007, the *Asia Times* commented, "By not changing the [*hukou*] system and instead giving the migrant workers a special holiday, it's a bit like showing starving people menus instead of feeding them." [24]

India and Vietnam also control migration to urban areas by requiring people to register or show local identity cards to access social services. "They're both trying to promote rural development and keep from overburdening urban areas," says Deshingkar at the Overseas Development Institute. "But it doesn't work. People move despite these regulations. It just makes it harder for them, and if they can access services it's at a price."

Many experts say governments should not try to halt rural-to-city migration because when migrant workers send large shares of their wages home to their families in the country it helps reduce rural poverty and inequality. In Dhaka, Bangladesh, for example, remittances from city workers provide up to 80 percent of rural households' budgets, according to the Coalition for the Urban Poor. [25]

Urban growth also helps rural economies by creating larger markets for agricultural products — including high-value products like meat, chicken and fish that people tend to add to their diets as their incomes rise. Cities can promote economic growth in surrounding areas by creating a demand for local farmers' products. For instance, South Africa's Johannesburg Fresh Produce Market offers vendors stalls, overnight storage space, business-skills training and financing; it also requires market agents to buy at least 10 percent of their produce from small, low-income farms. [26]
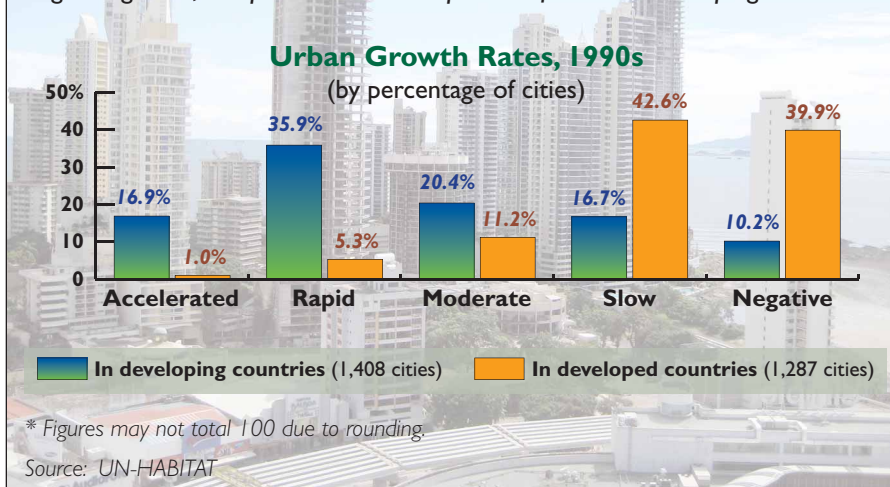
However, the rootless lifestyle adopted by so-called circular migrants — those who move back and forth between the city and the country — makes people vulnerable, Deshingkar points out. "There are roughly 100 million circular migrants in India now, and they're completely missed by official statistics because the government only counts permanent migrants," she says. "They can't get any insurance or social services, so they carry all the risk themselves."

Beyond the fact that anti-migration policies usually fail, experts say the biggest factor driving population increase in many fast-growing cities is not new residents moving in but "natural increase" — the rate at which people already living there have children. Natural increase accounts for about 60 percent of urban growth worldwide, while 20 percent comes from domestic and international migration and 20 percent results from reclassification of rural areas as urban. [27]

Family-planning programs helped reduce poverty rates in several developing Asian countries — including South Korea, Taiwan, Thailand, Singapore, Indonesia and Malaysia — where having smaller families increased household savings and reduced national education costs. [28] In contrast, artificial birth control is difficult to obtain in the Philippines, where the population is 80 percent Catholic and the government supports only "natural" family planning.

Cities in Developing World Growing Rapidly

More than half the developing world's cities experienced fast annual growth in the 1990s, compared to just 6.3 percent of those in wealthier countries. Conversely, more than 80 percent of cities in the wealthier countries had slow or negative growth, compared to about a quarter of those in developing countries.

Urban Growth Rates, 1990s
(by percentage of cities)

	Accelerated	Rapid	Moderate	Slow	Negative
In developing countries (1,408 cities)	16.9%	35.9%	20.4%	16.7%	10.2%
In developed countries (1,287 cities)	1.0%	5.3%	11.2%	42.6%	39.9%

Figures may not total 100 due to rounding.

Source: UN-HABITAT

Several professors at the University of the Philippines have calculated that if Filipinos had followed Thailand's example on family planning in the 1970s, the Philippines would have at least 4 million fewer people in poverty and would be exporting rice rather than importing it. Instead, the Philippine government's opposition to family planning "contributed to the country's degeneration into Southeast Asia's basket case," said economist Arsenio Balisacan. [29]

Can we make large cities greener?

Many fast-growing cities are unhealthy places to live because of dirty air, polluted water supplies and sprawling waste dumps. City governments worldwide are increasingly interested in making their cities greener and more sustainable.

Greening cities has many up-front costs but can provide big payoffs. For example, energy-efficient buildings cost less to operate and give cities cachet as centers for advanced technology and design.

Green policies also may help cities achieve broader social goals. When Enrique Peñalosa was elected mayor of Bogotá, Colombia, in 1998, the city was overrun with traffic and crime. Wealthy residents lived in walled-off neighborhoods, while workers were squeezed into shanties on the city's outskirts. Under Peñalosa's rule, the city built hundreds of new parks and a rapid-transit bus system, limited automobile use, banned sidewalk parking and constructed a 14-mile-long street for bicyclists and pedestrians that runs through some of the city's poorest neighborhoods. The underlying goal of the programs: Make Bogotá more people-friendly for poor residents as well as the rich.

"[A]nything that you do in order to increase pedestrian space constructs equality" said Peñalosa, who now consults with city officials in other developing countries. "It's a powerful symbol showing that citizens who walk are equally important to those who have a car." [30] His administration also invested funds that might otherwise have been spent building highways in social services like schools and libraries. Air pollution decreased as more

residents shifted to mass transit. Crime rates also fell, partly because more people were out on the streets. [31]

"Mobility and land use may be the most important issues that a mayor can address, because to unlock the economic potential of cities people have to be able to move from one area to another," says Polytechnic University's Bugliarello. "You also have to take care of water supplies and sanitation, because cities concentrate people and pathologies. Appropriate technologies aren't always the most expensive options, especially if cities get together and form markets for them."

For example, bus rapid transit (BRT) systems, which create networks of dedicated lanes for high-speed buses, are much cheaper than subways but faster than conventional buses that move in city traffic. By 2007 some 40 cities worldwide had developed BRT systems, including Bogotá; Jakarta, Indonesia; and Guayaquil, Ecuador. Many others are planned or under construction. [32]

Some developing countries are planning entire green cities with walkable neighborhoods, efficient mass transit and renewable-energy systems. Abu Dhabi, part of the United Arab Emirates on the Persian Gulf, is designing a $20 billion project called Masdar City, which it bills as the world's first carbon-neutral, zero-waste city. Located on the coast next to Abu Dhabi's airport, Masdar City will be a mixed-use community with about 40,000 residents and 50,000 commuters traveling in to work at high-tech companies. Plans call for the city to be car-free and powered mainly by solar energy. [33]

Abu Dhabi wants to become a global hub for clean technologies, according to Khaled Awad, property development director for the Masdar initiative. "It lets us leverage our energy knowledge [from oil and gas production] and our research and development skills and adapt them to new energy markets," he said.

"If we can do it there, we can do it anywhere," said Matthias Schuler, an engineer with the German climate-engineering firm Transsolar and a member of the international Masdar City design and planning team. [34] He points out that average daytime summer temperatures in Abu Dhabi are well over 100 degrees Fahrenheit, and coastal zones are very humid. "You can't find a harsher climate."

In China, meanwhile, green urban design is gaining support as a way to attract foreign investment and demonstrate environmental awareness. But some showpiece projects are falling short of expectations.

China Aggressively Tackles Air Pollution

"No country in developing Asia takes those challenges more seriously."

China's large cities have some of the world's worst air pollution, thanks to rapid industrial growth, heavy use of coal and growing demand for cars.

The capital, Beijing, lost its 1993 bid to host the 2000 Summer Olympic Games partly because the city was so polluted. A chronic grey haze not only sullied Beijing's international image but also threatened to cause health problems for athletes and impair their performances.

When Beijing was chosen in 2001 to host the 2008 Summer Games, it pledged to put on a "green Olympics," which was widely understood to include clearing the air.

Between 2001 and 2007, however, China's economy grew beyond all predictions, with its gross domestic product expanding by up to 13 percent a year. [1] Beijing's air pollution worsened as new factories, power plants and cars crowded into the city. Winds carried in more pollutants from other burgeoning cities, including nitrogen oxides and sulfur dioxide — which contribute to acid rain and smog — and fine particulates, which can cause or worsen heart and lung problems.

With the Olympic deadline looming, many observers predicted Beijing would not meet its targets even if it relied heavily on authoritarian measures like shutting down factories and limiting auto use. [2] International Olympic Committee President Jacques Rogge said some outdoor endurance sports might have to be postponed if they occurred on high-pollution days — an embarrassing prospect for Chinese leaders. [3]

But China met its promised target, keeping Beijing's daily air pollution index — based on combined measurements of sulfur dioxide, nitrogen dioxide and fine particulates — below 100 during the month the Olympics took place. A 100 index score means air quality will not affect daily activities, compared to a maximum score of 500, when officials warn residents to stay indoors. In fact, during the Olympics in August 2008 Beijing's daily air pollution reached the lowest August measurements since 2000, sometimes even dropping into the 20s. [4]

"No country in Asia has bigger air quality challenges than China, but no country in developing Asia takes those challenges more seriously," says Cornie Huizenga, executive director of the Clean Air Initiative for Asian Cities (CAI-Asia), an international network based in the Philippines and founded by the Asian Development Bank, the World Bank and the U.S. Agency for International Development. "China has taken a whole series of long-term structural measures to address air pollution. The Olympics put a magnifying glass on Beijing and made them focus there, but its programs are much bigger."

For instance, China continuously monitors air quality in more than 100 cities, requires high-polluting provinces and companies to close small, inefficient emission sources and install pollution-control equipment and has new-car emissions standards roughly equivalent to U.S. and Western European laws.

"For the Olympics China took temporary measures on top of those policies, like closing down large facilities and keeping cars off the roads. All of this plus good weather let Beijing deliver what it promised for the Games," says Huizenga.

Now China is further expanding air pollution regulations. During the Olympics, the Ministry of Environment announced that in 2009 it would start monitoring ultra-fine particle and ozone pollution — persistent problems in many developed countries. And Beijing officials plan to increase spending on public transportation.

Local pollution sources, weather patterns and geography influence air pollution, so China's policies for cleaning up Beijing's air might not work in other large cities. Mexico City, for instance, also has tried to reduce its severe air pollution but is hampered by the city's high altitude (7,200 feet). Car engines burn fuel inefficiently at high altitudes, so they pollute more than at sea level. And while automobiles are the biggest emission sources, scientists also found that leaking liquefied petroleum gas (LPG) — which most Mexican households burn for cooking and heating — also contributes to Mexico City's air pollution. [5]

"We need better-harmonized air quality monitoring in developing countries before we can compare them," says Huizenga. "But other cities should be able to make progress on a large scale like Beijing. There's a lot of low-hanging fruit, such as switching to cleaner transportation fuels, getting rid of vehicles with [high-polluting] two-stroke engines, managing dust at construction sites and cutting pollution from coal-fired power plants. But to make them work, you also need effective agencies with enough people and money to carry [out] policies."

[1] Michael Yang, "China's GDP (2003-2007)," forum.china.org.cn, Nov. 10, 2008; "China Revises 2007 GDP Growth Rate to 13%," Jan. 15, 2009, http://english.dbw.cn.

[2] Edward Russell, "Beijing's 'Green Olympics' Test Run Fizzles," *Asia Times*, Aug. 10, 2007; Jim Yardley, "Beijing's Olympic Quest: Turn Smoggy Sky Blue," *The New York Times*, Dec. 29, 2007; David G. Streets, *et al.*, "Air Quality during the 2008 Beijing Olympic Games," *Atmospheric Environment*, vol. 41 (2007).

[3] "IOC President: Beijing Air Pollution Could Cause Events to Be Delayed During 2008 Olympics," The Associated Press, Aug. 7, 2007.

[4] "Summary: AQ in Beijing During the 2008 Summer Olympics," Clean Air Initiative for Asian Cities, www.cleanairnet.org/caiasia/1412/article-72991.html. Weather conditions are important factors in air pollution levels — for example, summer heat and humidity promote the formation of ground-level ozone, a major ingredient of smog — so to put conditions during the Olympics in context, scientists compared them to readings taken in August of previous years.

[5] Tim Weiner, "Terrific News in Mexico City: Air Is Sometimes Breathable," *The New York Times*, Jan. 5, 2001.

Huangbaiyu was supposed to be a sustainable "green village" that would provide new homes for a farming town of more than 1,400 in rural northeast China. But the master plan, produced by a high-profile U.S. green architecture firm, called for 400 densely clustered bungalows without enough yard space for livestock. This meant that villagers would lose their existing income from backyard gardens, sheep flocks and trout ponds. The plan also proposed to use corncobs and stalks to fuel a biogas plant for heat, but villagers needed these crop wastes as winter feed for their goats.

By December 2008 the Chinese builder had constructed 42 houses, but only a few were occupied. The designer blamed the builder for putting up low-quality houses, but others said the plan did not reflect what villagers wanted or needed. [35] Planners "inadvertently designed an ecologically sound plan — from the perspectives of both birds and the green movement — that would devastate the local economy and bankrupt the households whose lives were to be improved," wrote Shannon May, an American graduate student who lived in the old village of Huangbaiyu for two years and wrote her dissertation on the project. [36]

Dongtan, a larger Chinese city designed as a green project with zero-carbon-emission buildings and transit systems, has also been sidetracked. Groundbreaking on the model city of 500,000 on a Manhattan-sized island near Shanghai is more than a year behind schedule. High-rise towers are sprouting up around the site, leading some observers to call the project expensive "greenwashing" — attempting to make lavish development acceptable by tacking on environmentally friendly features.

" 'Zero-emission' city is pure commercial hype," said Dai Xingyi, a professor at Fudan University in Shanghai. "You can't expect some technology to both offer you a luxurious and comfortable life and save energy at the same time. That's just a dream." [37]

Construction is also under way on a new green city southeast of Beijing for 350,000 residents, co-developed by China and Singapore. Tianjin's features include renewable-energy sources, efficient water use and green building standards. Premier Wen Jiabao attended the 2008 groundbreaking. [38]

Although China's green development projects have a mixed record so far, "The government is starting to recognize that it has responsibility for environmental impacts beyond its borders, mainly by promoting renewable energy," says Alastair MacGregor, associate vice president of AECOM, an international design firm with large

building projects in China. "Chinese culture is playing catch-up on sustainability."

More than 130 buildings designed to LEED (Leadership in Energy and Environmental Design) standards — which measure energy efficiency and healthy indoor working conditions — are planned or under construction in Beijing, Shanghai, Chongqing, Wuhan and other Chinese cities. [39] Chinese investors see LEED buildings as premium products, not as an everyday model, said MacGregor.

Some Chinese cities are developing their own green standards. About half of worldwide new construction between 2008 through 2015 is projected to occur in China, so even greening a modest share of that development would be significant.

"China could end up being a sustainability leader just by virtue of its size," MacGregor predicted. [40] ∎

BACKGROUND

From Farm to Factory

At the beginning of the 19th century only 3 percent of the world's population lived in cities, and only Beijing had more than a million inhabitants. [41] Then new technologies like the steam engine and railroads began to transform society. As the Industrial Revolution unfolded, people streamed from rural areas to manufacturing centers in Europe and the United States seeking a better income and life. This first great wave of urbanization established cities like London, Paris and New York as centers of global commerce.

It also spawned horrific slums in factory towns and large cities. Tenement houses became a feature of working-class neighborhoods, with lit-

tle access to fresh air or clean drinking water. Often whole neighborhoods shared a single water pump or toilet, and trash was usually thrown into the streets. [42]

German social scientist and a co-founder of communist theory Friedrich Engels graphically described urban workers' living conditions in cities like London and Manchester in 1844: "[T]hey are penned in dozens into single rooms. . . . They are given damp dwellings, cellar dens that are not waterproof from below or garrets that leak from above. . . . They are supplied bad, tattered or rotten clothing, adulterated or indigestible food. . . . Thus are the workers cast out and ignored by the class in power, morally as well as physically and mentally." [43]

Engels and his collaborator Karl Marx later predicted in *The Communist Manifesto* that oppression of the working class would lead to revolution in industrialized countries. Instead, public health movements began to develop in Europe and the United States in mid-century. Seeking to curb repeated cholera and typhoid epidemics, cities began collecting garbage and improving water-supply systems. A new medical specialty, epidemiology (the study of how infections are spread) developed as scientists worked to track and contain illnesses. Cities built green spaces like New York's Central Park to provide fresh air and access to nature. To help residents navigate around town, electric streetcars and subway trains were built in underground tunnels or on elevated tracks above the streets.

Many problems persisted, however. Homes and factories burned coal for heat and power, blanketing many large cities in smoky haze. Horse-drawn vehicles remained in wide use until the early-20th century, so urban streets were choked with animal waste. Wealthy city dwellers, seeking havens from the noise, dirt and crowding of

inner cities, moved out to cleaner suburban neighborhoods.

Despite harsh conditions, people continued to pour into cities. Economic growth in industrialized countries had ripple effects in developing countries. As wealthier countries imported more and more raw materials, commercial "gateway cities" in developing countries grew as well, including Buenos Aires, Rio de Janeiro and Calcutta (now Kolkata). By 1900, nearly 14 percent of the world's population lived in cities. [44]

End of Empires

Worldwide migration from country to city accelerated in the early-20th century as automation spread and fewer people were needed to grow food. But growth was not uniform. Wars devastated some of Europe's major cities while industrial production swelled others. And when colonial empires dissolved after World War II, many people were displaced in newly independent nations.

Much of the fighting during World War I occurred in fields and trenches, so few of Europe's great cities were seriously damaged. By the late 1930s, however, long-range bombers could attack cities hundreds of miles away. Madrid and Barcelona were bombed during the Spanish Civil War, a prelude to intensive air attacks on London, Vienna, Berlin, Tokyo and elsewhere during World War II. In 1945 the United States dropped atomic bombs on the Japanese cities of Hiroshima and Nagasaki, destroying each. For centuries cities had walled themselves off against outside threats, but now they were vulnerable to air attacks from thousands of miles away.

After 1945, even victorious nations like Britain and France were greatly weakened and unable to manage over-

Chronology

1700s-1800s
Industrial Revolution spurs rapid urban growth in Europe and the U.S. Expanding slums trigger reforms and public health laws.

1804
World population reaches 1 billion.

1854
British doctor John Snow discovers the connection between contaminated drinking water and a cholera outbreak in London.

1897
Brazil's first *favela* (shanty town), is established outside Rio de Janeiro.

— • —

1900-1960s
Europe and the United States are the most urbanized. Africa and Asia begin gaining independence and struggle to develop healthy economies.

1906
An earthquake and subsequent fire destroy much of San Francisco, killing more than 3,000 people.

1927
World population reaches 2 billion.

1949
Chinese communists defeat nationalists, establishing the People's Republic of China, which aggressively promotes industrial development.

1960
World population hits 3 billion.

1964
Tokyo becomes first Asian city to host the Olympic Games and soon after that displaces New York as the world's largest city.

1970s-1990s
Urbanization accelerates in Asia and Africa. Many U.S. and European cities shrink as residents move to suburbs.

1971
East Pakistan secedes from West Pakistan and becomes the independent nation of Bangladesh; populations in Dhaka and other cities grow rapidly.

1974
World population reaches 4 billion.

1979
China initiates broad economic reforms, opens diplomatic and trade relations with the United States and starts to ease limits on migration to cities.

1985
An earthquake in Mexico City kills some 10,000 people and damages water-supply and transit systems.

1987
World population reaches 5 billion.

1991
India institutes sweeping market reforms to attract foreign investors and spur rapid economic growth.

1999
World population reaches 6 billion.

— • —

2000s
Most industrialized countries stabilize at 70-80 percent urban. Cities continue to grow in Asia and Africa.

2000
International community endorses the U.N. Millennium Development Goals designed to end poverty by 2015, including improving the lives of slum dwellers.

2001
Many international companies shift production to China after it joins the World Trade Organization; migration from rural areas accelerates. . . . Terrorists destroy World Trade Center towers in New York City, killing thousands. . . . Taiwan completes Taipei 101, the world's tallest skyscraper (1,671 feet), superseding the Petronas Towers in Kuala Lumpur, Malaysia (1,483 feet).

2005
United Nations condemns Zimbabwe for slum-clearance operations that leave 700,000 people homeless.

2007
The nonprofit group One Laptop Per Child unveils a prototype $100 laptop computer designed for children in developing countries to help close the "digital divide" between cities and rural areas.

2008
More than half of the world's population lives in cities. . . . Beijing hosts Summer Olympic Games. . . . Coordinated terrorist attacks in Mumbai kill nearly 170 people and injure more than 300.

2009
A global recession leaves millions of urban workers jobless, forcing many to return to their home villages.

2030
World's urban population is expected to reach 5 billion, and its slum population could top 2 billion.

2070
About 150 million city dwellers — primarily in India, Bangladesh, China, Vietnam, Thailand, Myanmar and Florida — could be in danger due to climate change, according to a 2008 study.

seas colonies, where independence movements were underway. As European countries withdrew from their holdings in the Middle East, Asia and Africa over the next 25 years, a wave of countries gained independence, including Indonesia, India, Pakistan, the Philippines, Syria, Vietnam and most of colonial Africa. Wealthy countries began providing aid to the new developing countries, especially in Asia and Latin America. But some nations, especially in Africa, received little focused support.

By mid-century most industrialized countries were heavily urbanized, and their populations were no longer growing rapidly. By 1950 three of the world's largest cities — Shanghai, Buenos Aires and Calcutta — were in developing countries. Populations in developing countries continued to rise through the late 1960s even as those nations struggled to industrialize. Many rural residents moved to cities, seeking work and educational opportunities.

In the 1950s and '60s U.S. urban planners heatedly debated competing approaches to city planning. The top-down, centralized philosophy was espoused by Robert Moses, the hard-charging parks commissioner and head of New York City's highway agency from 1934 to 1968. Moses pushed through numerous bridge, highway, park and slum-clearance projects that remade New York but earned him an image as arrogant and uncaring. [45] His most famous critic, writer and activist Jane Jacobs, advocated preserving dense, mixed-use neighborhoods, like New York's Greenwich

Cities Need to Plan for Disasters and Attacks

Concentrated populations and wealth magnify impact.

Flash floods in 1999 caused landslides in the hills around Caracas, Venezuela, that washed away hundreds of hillside shanties and killed an estimated 30,000 people — more than 10 times the number of victims of the Sept. 11, 2001, terrorist attacks in the United States.

Because cities concentrate populations and wealth, natural disasters in urban areas can kill or displace thousands of people and cause massive damage to property and infrastructure. Many cities are located on earthquake faults, flood plains, fire-prone areas and other locations that make them vulnerable. The impacts are magnified when high-density slums and squatter neighborhoods are built in marginal areas. Political instability or terrorism can also cause widespread destruction.

Protecting cities requires both "hard" investments, such as flood-control systems or earthquake-resistant buildings, and "soft" approaches, such as emergency warning systems and special training for police and emergency-response forces. Cities also can improve their forecasting capacity and train officials to assess different types of risk. [1] Although preventive strategies are expensive, time-consuming and often politically controversial, failing to prepare for outside threats can be far more costly and dangerous.

Global climate change is exacerbating flooding and heat waves, which are special concerns for cities because they absorb more heat than surrounding rural areas and have higher average temperatures — a phenomenon known as the urban heat island effect. According to a study by the Organization for Economic Cooperation and Development (OECD), about 40 million people living in coastal areas around the world in 2005 were exposed to so-called 100-year floods — or major floods likely to occur only once every 100 years. By the 2070s, the OECD said, the population at risk from such flooding could rise to 150 million as more people move to cities, and climate change causes more frequent and ferocious storms and rising sea levels.

Cities with the greatest population exposure in the 2070 forecast include Kolkata and Mumbai in India, Dhaka (Bangladesh), Guangzhou and Shanghai in China, Ho Chi Minh City and Hai Phong in Vietnam, Bangkok (Thailand), Rangoon (Myanmar) and Miami, Florida. Cities in developed countries tend to be better protected, but there are exceptions. For example, London has about the same amount of flooding protection as Shanghai, according to the OECD. [2]

"All cities need to look at their critical infrastructure systems and try to understand where they're exposed to natural hazards," says Jim Hall, leader of urban research at England's Tyndall Centre for Climate Change Research. For example, he says, London's Underground subway system is vulnerable to flooding and overheating. Fast-growing cities planning for climate change, he adds, might want to control growth in flood-prone areas, improve water systems to ensure supply during droughts or build new parks to help cool urban neighborhoods. "Risks now and in the future depend on what we do to protect cities," says Hall.

In some cities, residents can literally see the ocean rising. Coastal erosion has destroyed 47 homes and more than 400 fields in recent years in Cotonou, the capital city of the West African nation of Benin, according to a local nonprofit called Front United Against Coastal Erosion. "The sea was far from us two years ago. But now, here it is. We are scared," said Kofi Ayao, a local fisherman. "If we do not find a solution soon, we may simply drown in our sleep one day." [3]

Social violence can arise from within a city or come as an attack from outside. For example, in 2007 up to 600 people were killed when urban riots erupted in Kenya after a disputed national election. [4]

Urban leaders often justify slum-clearance programs by claiming that poor neighborhoods are breeding grounds for unrest. Others say slums are fertile recruiting grounds for terrorist groups. Slums certainly contain many who feel ill-treated, and extreme conditions may spur them into action. Overall, however, experts say most slum dwellers are too busy trying to eke out a living to riot or join terrorist campaigns.

"Poverty alone isn't a sufficient cause [for unrest]," says John Parachini, director of the Intelligence Policy Center at the RAND Corp., a U.S. think tank. "You need a combination of things — people with a profound sense of grievance, impoverishment and leaders who offer the prospect of change. Often the presence of an enemy nearby, such as an occupying foreign power or a rival tribal group or religious sect, helps galvanize people."

Last November's terrorist attacks in Mumbai, in which 10 gunmen took dozens of Indian and foreign hostages and killed at least 164 people, showed an ironic downside of globalization: Wealth, clout and international ties can make cities terrorist targets.

"Mumbai is India's commercial and entertainment center — India's Wall Street, its Hollywood, its Milan. It is a prosperous symbol of modern India," a RAND analysis noted. Mumbai also was accessible from the sea, offered prominent landmark targets (historic hotels frequented by foreigners and local elites) and had a heavy media presence that guaranteed international coverage. [5]

But serendipity can also make one city a target over another, says Parachini. "Attackers may know one city better or have family links or contacts there. Those local ties matter for small groups planning a one-time attack," he says.

Developing strong core services, such as police forces and public health systems, can be the first step in strengthening

A Bangladeshi boy helps slum residents cross floodwaters in Dhaka. Rising waters caused by global warming pose a significant potential threat to Dhaka and other low-lying cities worldwide.

most cities against terrorism, he says, rather than creating specialized units to handle terrorist strikes.

"Basic governance functions like policing maintain order, build confidence in government and can pick up a lot of information about what's going on in neighborhoods," he says. "They make it harder to do bad things."

[1] George Bugliarello, "The Engineering Challenges of Urban Sustainability," *Journal of Urban Technology*, vol. 15, no. 1 (2008), pp. 64-65.

[2] R. J. Nicholls, *et al.*, "Ranking Port Cities with High Exposure and Vulnerability to Climate Extremes: Exposure Estimates," *Environment Working Papers No. 1*, Organization for Economic Cooperation and Development, Nov. 19, 2008, pp. 7-8, www.olis.oecd.org/olis/2007doc.nsf/LinkTo/NT000058 8E/$FILE/JT03255617.PDF.

[3] "Rising Tides Threaten to Engulf Parts of Cotonou," U.N. Integrated Regional Information Network, Sept. 2, 2008.

[4] "Chronology: Kenya in Crisis After Elections," Reuters, Dec. 31, 2007; "The Ten Deadliest World Catastrophes 2007," Insurance Information Institute, www.iii.org.

[5] Angel Rabasa, *et al.*, "The Lessons of Mumbai," *RAND Occasional Paper*, January 2009.

Village, and consulting with residents to build support for development plans. [46] Similar controversies would arise later in developing countries.

By the 1960s car-centered growth characterized many of the world's large cities. "Circle over London, Buenos Aires, Chicago, Sydney, in an airplane," wrote American historian Lewis Mumford in 1961. "The original container has completely disappeared: the sharp division between city and country no longer exists." City officials, Mumford argued, only measured improvements in quantities, such as wider streets and bigger parking lots.

"[T]hey would multiply bridges, highways [and] tunnels, making it ever easier to get in and out of the city but constricting the amount of space available within the city for any other purpose than transportation itself," Mumford charged. [47]

Population Boom

In the 1970s and '80s, as populations in developing countries continued to grow and improved agricultural methods made farmers more productive, people moved to the cities in ever-increasing numbers.

Some national economies boomed, notably the so-called Asian tigers — Hong Kong, Singapore, Taiwan and South Korea — by focusing on manufacturing exports for industrialized markets and improving their education systems to create productive work forces. Indonesia, Malaysia, the Philippines and Thailand — the "tiger cubs" — went through a similar growth phase in the late 1980s and early '90s.

After China and India opened up their economies in the 1980s and '90s, both countries became magnets for foreign investment and created free-trade areas and special economic zones

to attract business activity. Cities in those areas expanded, particularly along China's southeast coast where such zones were clustered.

As incomes rose, many Asian cities aspired to global roles: Seoul hosted the 1988 Summer Olympics, and Malaysia built the world's tallest skyscrapers — the Petronas Twin Towers, completed in 1998, only to be superseded by the Taipei 101 building in Taiwan a few years later.

Some Asian countries — including Malaysia, Sri Lanka and Indonesia — implemented programs to improve living standards for the urban poor and helped reduce poverty. However, poverty remained high in Thailand and the Philippines and increased in China and Vietnam. [48]

Cities in South America and Africa also expanded rapidly between 1970 and 2000, although South America was farther ahead. By 1965 Latin America was already 50 percent urbanized and had three cities with populations over 5 million (Buenos Aires, São Paulo and Rio de Janeiro) — a marker sub-Saharan Africa would not achieve for several decades. [49] Urban growth on both continents followed the "primacy" pattern, in which one city is far more populous and economically and politically powerful than all the others in the nation. The presence of so-called primate cities like Lima (Peru), Caracas (Venezuela) or Lagos (Nigeria) can distort development if the dominant city consumes most public investments and grows to a size that is difficult to govern.

Latin America's growth gradually leveled out in the 1980s: Population increases slowed in major urban centers, and more people moved to small and medium-sized cities. [50] On average the region's economy grew more slowly and unevenly than Asia's, often in boom-and-bust cycles. [51] Benefits accrued mostly to small ruling classes who were hostile to new migrants, and income inequality became

deeply entrenched in many Latin American cities.

Africa urbanized quickly after independence in the 1950s and '60s. But from the mid-1970s forward most countries' incomes stagnated or contracted. Such "urbanization without growth" in sub-Saharan Africa created the world's highest rates of urban poverty and income inequality. Corruption and poor management reinforced wealth gaps that dated back to colonial times. Natural disasters, wars and the spread of HIV/AIDS further undercut poverty-reduction efforts in both rural and urban areas. [52]

New Solutions

As the 21st century began, calls for new antipoverty efforts led to an international conference at which 189 nations endorsed the Millennium Development Goals, designed to end poverty by 2015. Experts also focused on bottom-up strategies that gave poor people resources to help themselves.

An influential proponent of the bottom-up approach, Peruvian economist Hernando de Soto, stirred debate in 2000 with his book *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. Capitalist economies did not fail in developing nations because those countries lacked skills or enterprising spirit, de Soto argued. Rather, the poor in those countries had plenty of assets but no legal rights, so they could not prove ownership or use their assets as capital.

"They have houses but not titles; crops but not deeds; businesses but not statutes of incorporation," de Soto wrote. "It is the unavailability of these essential representations that explains why people who have adapted every other Western invention, from the paper clip to the nuclear reactor, have not been able to

produce sufficient capital to make their domestic capitalism work." But, he asserted, urbanization in the developing world had spawned "a huge industrial-commercial revolution" which clearly showed that poor people could contribute to economic development if their countries developed fair and inclusive legal systems. [53]

Not all experts agreed with de Soto, but his argument coincided with growing interest in approaches like microfinance (small-scale loans and credit programs for traditionally neglected customers) that helped poor people build businesses and transition from the "extra-legal" economy into the formal economy. Early microcredit programs in the 1980s and '90s had targeted mainly the rural poor, but donors began expanding into cities around 2000. [54]

The "digital divide" — the gap between rich and poor people's access to information and communications technologies (ICTs) — also began to attract the attention of development experts. During his second term (1997-2001), U.S. President Bill Clinton highlighted the issue as an obstacle to reducing poverty both domestically and at the global level. "To maximize potential, we must turn the digital divide among and within our nations into digital opportunities," Clinton said at the Asia Pacific Economic Cooperation Forum in 2000, urging Asian nations to expand Internet access and train citizens to use computers. [55] The Millennium Development Goals called for making ICTs more widely available in poor countries.

Some ICTs, such as mobile phones, were rapidly adopted in developing countries, which had small or unreliable landline networks. By 2008, industry observers predicted, more than half of the world's population would own a mobile phone, with Africa and the Middle East leading the way. [56]

Internet penetration moved much more slowly. In 2006 some 58 percent of the population in industrial countries used the Internet, compared to 11 percent in developing countries and only 1 percent in the least developed countries. Access to high-speed Internet service was unavailable in many developing regions or was too expensive for most users. [57] Some antipoverty advocates questioned whether ICTs should be a high priority for poor countries, but others said the issue was not whether but when and how to get more of the world's poor wired.

"The more the better, especially broadband," says Polytechnic University's Bugliarello.

While development experts worked to empower the urban poor, building lives in fast-growing cities remained difficult and dangerous in many places. Some governments still pushed approaches like slum clearance, especially when it served other purposes.

Notoriously, in 2005 President Robert Mugabe of Zimbabwe launched a slum-clearance initiative called Operation Murambatsvina, a Shona phrase translated by some as "restore order" and others as "drive out the trash." Thousands of shacks in Zimbabwe's capital, Harare, and other cities across the nation were destroyed, allegedly to crack down on illegal settlements and businesses.

"The current chaotic state of affairs, where small-to-medium enterprises operated outside of the regulatory framework and in undesignated and crime-ridden areas, could not be countenanced much longer," said Mugabe. [58]

But critics said Mugabe was using slum clearance as an excuse to intimidate and displace neighborhoods that supported his opponents. In the end, some 700,000 people were left homeless or jobless by the action, which the United Nations later said violated international law. [59] Over the next several years Mugabe's government failed to carry out its pledges to build new houses for the displaced families. [60] ∎

Security officers forcibly remove a woman from her home during land confiscations in Changchun, a city of 7.5 million residents in northeast China, so buildings can be demolished to make way for new construction. Some rapidly urbanizing governments use heavy-handed methods — such as land confiscation, eviction or slum clearance — so redevelopment projects can proceed.

CURRENT SITUATION

Economic Shadow

The current global economic recession is casting a dark cloud over worldwide economic development prospects. Capital flows to developing countries have declined sharply, and falling export demand is triggering layoffs and factory shutdowns in countries that produce for Western markets. But experts say even though the overall picture is sobering, many factors will determine how severely the recession affects cities.

In March the World Bank projected that developing countries would face budget shortfalls of $270 billion to $700 billion in 2009 and the world economy would shrink for the first time since World War II. According to the bank, 94 out of 116 developing countries were already experiencing an economic slowdown, and about half of them already had high poverty levels. Urban-based exporters and manufacturers were among the sectors hit hardest by the recession. [61]

These trends, along with an international shortage of investment capital, will make many developing countries increasingly dependent on foreign aid at a time when donor countries are experiencing their own budget crises. As workers shift out of export-oriented sectors in the cities and return to rural areas, poverty may increase, the bank projected.

The recession could mean failure to meet the Millennium Development Goals, especially if donor countries pull back on development aid. The bank urged nations to increase their foreign aid commitments and recommended that national governments:

- Increase government spending where possible to stimulate economies;
- Protect core programs to create social safety nets for the poor;

Getty Images/Daniel Berehulak

AFP/Getty Images/Pal Pillai

Slum Redevelopment Plan Stirs Controversy

Conditions for the 60,000 families living in Mumbai's Dharavi neighborhood (top) — one of Asia's largest slums — are typical for a billion slum dwellers around the globe. Slums often lack paved roads, water-distribution systems, sanitation and garbage collection — spawning cholera, diarrhea and other illnesses. Electric power and telephone service are usually poached from available lines. Mumbai's plans to redevelop Dharavi, located on 600 prime acres in the heart of the city, triggered strong protests from residents, who demanded that their needs be considered before the redevelopment proceeds (bottom). The project has stalled recently due to the global economic crisis.

- Invest in infrastructure such as roads, sewage systems and slum upgrades; and
- Help small- and medium-size businesses get financing to create opportunities for growth and employment. [62]

President Barack Obama's economic stimulus package, signed into law on Feb. 17, takes some of these steps and contains at least $51 billion for programs to help U.S. cities. (Other funds are allocated by states and may provide more aid to cities depending on each state's priority list.) Stimulus programs that benefit cities include $2.8 billion for energy conservation and energy efficiency, $8.4 billion for public transportation investments, $8 billion for high-speed rail and intercity passenger rail service, $1.5 billion for emergency shelter grants, $4 billion for job training and $8.8 billion for modernizing schools. [63]

Governments in developing countries with enough capital may follow suit. At the World Economic Forum in Davos, Switzerland, in January, Chinese Premier Wen Jibao announced a 4 trillion yuan stimulus package (equivalent to about 16 percent of China's GDP over two years), including money for housing, railways and infrastructure and environmental protection. " 'The harsh winter will be gone, and spring is around the corner,' " he said, predicting that China's economy would rebound this year. [64]

But according to government figures released just a few days later, more than 20 million rural migrant workers had already lost their jobs in coastal manufacturing areas and moved back to their home towns. [65] In March the World Bank cut its forecast for China's 2009 economic growth from 7.5 percent to 6.5 percent, although it said China was still doing well compared to many other countries. [66]

In India "circular migration" is becoming more prevalent, according to the Overseas Development Institute's Deshingkar. "Employment is becoming more temporary — employers like to

hire temporary workers whom they can hire and fire at will, so the proportion of temporary workers and circular migrants is going up," she says. "In some Indian villages 95 percent of migrants are circular. Permanent migration is too expensive and risky — rents are high, [people are] harassed by the police, slums are razed and they're evicted. Keeping one foot in the village is their social insurance."

Meanwhile, international development aid is likely to decline as donor countries cut spending and focus on their own domestic needs. "By rights the financial crisis shouldn't undercut development funding, because the total amounts given now are tiny compared to the national economic bailouts that are under way or being debated in developed countries," says Harvard economist Bloom. "Politically, however, it may be hard to maintain aid budgets."

At the World Economic Forum billionaire philanthropist Bill Gates urged world leaders and organizations to keep up their commitments to foreign aid despite the global financial crisis. "If we lose sight of our long-term priority to expand opportunity for the world's poor and abandon our commitments and partnerships to reduce inequality, we run the risk of emerging from the current economic downturn in a world with even greater disparities in health and education and fewer opportunities for people to improve their lives," said Gates, whose Bill and Melinda Gates Foundation supports efforts to address both rural and urban poverty in developing nations. [67]

In fact, at a summit meeting in London in early April, leaders of the world's 20 largest economies pledged $1.1 trillion in new aid to help developing countries weather the global recession. Most of the money will be channeled through the International Monetary Fund.

"This is the day the world came together to fight against the global recession," said British Prime Minister Gordon Brown. [68]
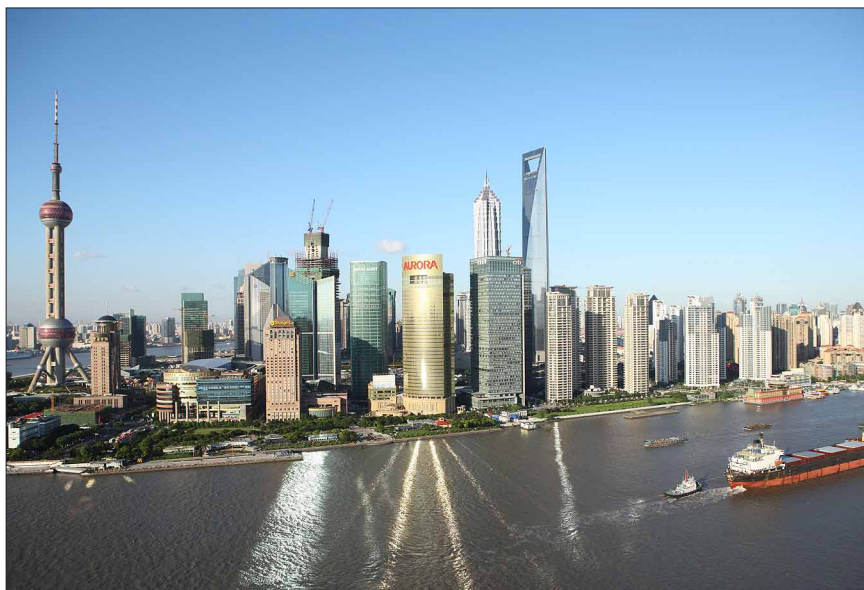
Reflecting China's stunningly rapid urbanization, Shanghai's dramatic skyline rises beside the Huangpu River. Shanghai is the world's seventh-largest city today but will drop to ninth-place by 2025, as two south Asian megacities, Dhaka and Kolkata, surpass Shanghai in population.

Slum Solutions

As slums expand in many cities, debate continues over the best way to alleviate poverty. Large-scale slum-clearance operations have long been controversial in both developed and developing countries: Officials typically call the slums eyesores and public health hazards, but often new homes turn out to be unaffordable for the displaced residents. Today development institutions like the World Bank speak of "urban upgrading" — improving services in slums instead of bulldozing them. [69]

This approach focuses on improving basic infrastructure systems like water distribution, sanitation and electric power; cleaning up environmental hazards and building schools and clinics. The strategy is cheaper than massive demolition and construction projects and provides incentives for residents to invest in improving their own homes, advocates say. [70]

To do so, however, slum dwellers need money. Many do not have the basic prerequisites even to open bank accounts, such as fixed addresses and minimum balances, let alone access to credit. Over the past 10 to 15 years, however, banks have come to recognize slum dwellers as potential customers and have begun creating microcredit programs to help them obtain small loans and credit cards that often start with very low limits. A related concept, micro-insurance, offers low-cost protection in case of illness, accidents and property damage.

Now advocates for the urban poor are working to give slum dwellers more financial power. The advocacy group, Shack/Slum Dwellers International (SDI), for example, has created Urban Poor Funds that help attract direct investments from banks, government agencies and international donor groups. [71] In 2007 SDI received a $10 million grant from the Gates foundation to create a Global Finance Facility for Federations of the Urban Poor.

The funds will give SDI leverage in negotiating with governments for land, housing and infrastructure, according to Joel Bolnick, an SDI director in Cape Town, South Africa. If a government agency resists, said Bolnick, SDI can

reply, " 'If you can't help us here, we'll take the money and put it on the table for a deal in Zambia instead.' " [72]

And UN-HABITAT is working with lenders to promote more mortgage lending to low-income borrowers in developing countries. "Slum dwellers have access to resources and are resources in themselves. To maximize the value of

Reuters/George Esiri

Two-thirds of sub-Saharan Africa's city dwellers live in slums, like this one in Lagos, Nigeria, which has open sewers and no clean water, electric power or garbage collection. About 95 percent of today's rapid urbanization is occurring in the developing world, primarily in sub-Saharan Africa and Asia.

slums for those who live in them and for a city, slums must be upgraded and improved," UN-HABITAT Executive Director Tibaijuka said in mid-2008. [73]

Nevertheless, some governments still push slum clearance. Beijing demolished hundreds of blocks of old city neighborhoods and culturally significant buildings in its preparations to host the 2008 Olympic Games. Some of these "urban corners" (a negative term for high-density neighborhoods with narrow streets) had also been designated for protection as historic areas. [74] Developers posted messages urging residents to take government resettlement fees and move, saying, "Living in the Front Gate's courtyards is ancient history;

moving to an apartment makes you a good neighbor," and "Cherish the chance; grab the good fortune; say farewell to dangerous housing." [75]

Beijing's actions were not unique. Other cities hosting international "mega-events" have demolished slums. Like Beijing, Seoul, South Korea, and Santo Domingo in the Dominican Republic were already urbanizing and had slum-clearance programs under way, but as their moments in the spotlight grew nearer, eviction operations accelerated, according to a Yale study. Ultimately, the study concluded, the benefits from hosting big events did not trickle down to poor residents and squatter communities who were "systematically removed or concealed from high-profile areas in order to construct the appearance of development." [76]

Now the debate over slum clearance has arrived in Dharavi. Developers are circling the site, which sits on a square mile of prime real estate near Mumbai's downtown and airport. The local government has accepted a

$3 billion redevelopment proposal from Mukesh Mehta, a wealthy architect who made his fortune in Long Island, N.Y., to raze Dharavi's shanties and replace them with high-rise condominiums, shops, parks and offices. Slum dwellers who can prove they have lived in Dharavi since 1995 would receive free 300-square-foot apartments, equivalent to two small rooms, in the new buildings. Other units would be sold at market rates that could reach several thousand dollars per square foot. [77]

Mehta contends his plan will benefit slum residents because they will receive new homes on the same site. "Give me a better solution. Until then you might want to accept this one," he said last summer. [78] But many Dharavi residents say they will not be able to keep small businesses like tanneries, potteries and tailoring shops if they move into modern high-rises, and would rather stay put. (*See "At Issue," p. 111.*)

"I've never been inside a tall building. I prefer a place like this where I can work and live," said Usman Ghani, a potter born and raised in Dharavi who has demonstrated against the redevelopment proposals. He is not optimistic about the future. "The poor and the working class won't be able to stay in Mumbai," he said. "Many years ago, corrupt leaders sold this country to the East India Company. Now they're selling it to multinationals." [79] ∎

OUTLOOK

Going Global

In an urbanizing world, cities will become increasingly important as centers of government, commerce and

At Issue:

Will redevelopment of the Dharavi slum improve residents' lives?

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CHAIRMAN, MM PROJECT CONSULTANTS

WRITTEN FOR *CQ GLOBAL RESEARCHER*, APRIL 2009

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AUTHOR, REDISCOVERING DHARAVI: STORIES FROM ASIA'S LARGEST SLUM

WRITTEN FOR *CQ GLOBAL RESEARCHER*, APRIL 2009

*s*lum rehabilitation is a challenge that has moved beyond the realm of charity or meager governmental budgets. It requires a pragmatic and robust financial model and a holistic approach to achieve sustainability.

Dharavi — the largest slum pocket in Mumbai, India, and one of the largest in the world — houses 57,000 families, businesses and industries on 600 acres. Alarmingly, this accounts for only 4 percent of Mumbai's slums, which house about 7.5 million people, or 55 percent of the city's population.

Mumbai's Slum Rehabilitation Authority (SRA) has undertaken the rehabilitation of all the eligible residents and commercial and industrial enterprises in a sustainable manner through the Dharavi Redevelopment Project (DRP), following an extensive consultative process that included Dharavi's slum dwellers. The quality of life for those residents is expected to dramatically improve, and they could integrate into mainstream Mumbai over a period of time. Each family would receive a 300-square-foot home plus adequate workspace, along with excellent infrastructure, such as water supply and roads. A public-private partnership between the real estate developers and the SRA also would provide amenities for improving health, income, knowledge, the environment and socio-cultural activities. The land encroached by the slum dwellers would be used as equity in the partnership.

The primary focus — besides housing and infrastructure — would be on income generation. Dharavi has a vibrant economy of $600 million per annum, despite an appalling working environment. But the redevelopment project would boost the local gross domestic product to more than $3 billion, with the average family income estimated to increase to at least $3,000 per year from the current average of $1,200. To achieve this, a hierarchy of workspaces will be provided, including community spaces equivalent to 6 percent of the built-up area, plus individual workspaces in specialized commercial and industrial complexes for leather goods, earthenware, food products, recycling and other enterprises.

The greatest failure in slum redevelopment has been to treat it purely as a housing problem. Improving the infrastructure to enable the local economy to grow is absolutely essential for sustainable development. We believe this project will treat Dharavi residents as vital human resources and allow them to act as engines for economic growth. Thus, the DRP will act as a torchbearer for the slums of Mumbai as well as the rest of the developing world.

*t*he controversy over the redevelopment of Dharavi, a slum in India's largest city of Mumbai, centers on the future of the estimated 60,000 families who live and work there.

Dharavi is a slum because its residents do not own the land on which they live. But it is much more than that. The settlement — more than 100 years old — grew up around one of the six fishing villages that coalesced over time to become Bombay, as Mumbai originally was called. People from all parts of India live and work here making terra-cotta pots, leather goods, garments, food items and jewelry and recycling everything from plastic to metal. The annual turnover from this vast spread of informal enterprises, much of it conducted inside people's tiny houses, is an estimated $700 million a year.

The Dharavi Redevelopment Plan — conceived by consultant Mukesh Mehta and being implemented by the Government of Maharashtra state — envisages leveling this energetic and productive part of Mumbai and converting it into a collection of high-rise buildings, where some of the current residents will be given free apartments. The remaining land will be used for high-end commercial and residential buildings.

On paper, the plan looks beautiful. But people in Dharavi are not convinced. They believe the plan has not understood the nature and real value of Dharavi and its residents. It has only considered the value of the land and decided it is too valuable to be wasted on poor people.

Dharavi residents have been left with no choice but to adapt to an unfamiliar lifestyle. If this meant a small adjustment, one could justify it. But the new form of living in a 20-story high-rise will force them to pay more each month, since the maintenance costs of high-rises exceed what residents currently spend on housing. These costs become unbearable when people earn just enough to survive in a big city.

Even worse, this new, imposed lifestyle will kill all the enterprises that flourish today in Dharavi. Currently, people live and work in the same space. In the new housing, this will not be possible.

The alternatives envisaged are spaces appropriate for formal, organized industry. But enterprises in Dharavi are informal and small, working on tiny margins. Such enterprises cannot survive formalization.

The real alternative is to give residents security of tenure and let them redevelop Dharavi. They have ideas. It can happen only if people are valued more than real estate.

culture, but some will be more influential than others. Although it doesn't have a precise definition, the term "global city" is used by city-watchers to describe metropolises like New York and London that have a disproportionate impact on world affairs. Many urban leaders around the world aspire to take their cities to that level.

AP Photo/Kamran Jebreili

In addition to Dubai's glittering, new downtown area filled with towering skyscrapers, the city's manmade, palm-tree-shaped islands of Jumeirah sport hundreds of multi-million-dollar second homes for international jetsetters. Development has skidded to a temporary halt in the Arab city-state, much as it has in some other rapidly urbanizing cities around the globe, due to the global economic downturn.

The 2008 *Global Cities Index* — compiled by *Foreign Policy* magazine, the Chicago Council on Global Affairs and the A. T. Kearney management consulting firm — ranks 60 cities on five broad criteria that measure their international influence, including:

- Business activity,
- Human capital (attracting diverse groups of people and talent),
- Information exchange,
- Cultural attractions and experiences, and
- Political engagement (influence on world policy making and dialogue). [80]

The scorecard is topped by Western cities like New York, London and Paris but also includes developing-country cities such as Beijing, Shanghai, Bangkok, Mexico City and São Paulo. Many of these cities, the authors noted, are taking a different route to global stature than their predecessors followed — a shorter, often state-led path with less public input than citizens of Western democracies expect to have.

"Rulers in closed or formerly closed societies have the power to decide that their capitol is going to be a world-class city, put up private funds and spell out what the city should look like," says Simon O'Rourke, executive director of the Global Chicago Center at the Chicago Council on Global Affairs. "That's not necessarily a bad path, but it's a different path than the routes that New York or London have taken. New global cities can get things done quickly — if the money is there."

Abu Dhabi's Masdar Initiative, for example, remains on track despite the global recession, directors said this spring. The project is part of a strategic plan to make Abu Dhabi a world leader in clean-energy technology. "There is no question of any rollback or slowing down of any of our projects in the renewable-energy sector," said Sultan Ahmed Al Jaber, chief executive officer of the initiative, on March 16. [81] Last year the crown prince of Abu Dhabi created a $15 billion fund for clean-energy investments, which included funds for Masdar City.

Money is the front-burner issue during today's global recession. "Unless a country's overall economic progress is solid, it is very unlikely that a high proportion of city dwellers will see big improvements in their standard of living," says Harvard's Bloom. In the next several years, cities that ride out the global economic slowdown successfully will be best positioned to prosper when world markets recover.

In the longer term, however, creating wealth is not enough, as evidenced by conditions in Abu Dhabi's neighboring emirate, Dubai. Until recently Dubai was a booming city-state with an economy built on real estate, tourism and trade — part of the government's plan to make the city a world-class business and tourism hub. It quickly became a showcase for wealth and rapid urbanization: Dozens of high-rise, luxury apartment buildings and office towers sprouted up seemingly overnight, and man-made islands shaped like palm trees rose from the sea, crowded with multi-million-dollar second homes for jetsetters.

But the global recession has brought development to a halt. The real estate collapse was so sudden that jobless expatriate employees have been fleeing the country, literally abandoning their cars in the Dubai airport parking lot. [82]

Truly global cities are excellent in a variety of ways, says O'Rourke. "To be great, cities have to be places where people want to live and work." They need intellectual and cultural attractions

as well as conventional features like parks and efficient mass transit, he says, and, ultimately, they must give residents at least some role in decisionmaking.

"It will be very interesting to see over the next 20 years which cities can increase their global power without opening up locally to more participation," says O'Rourke. "If people don't have a say in how systems are built, they won't use them."

Finally, great cities need creative leaders who can adapt to changing circumstances. Mumbai's recovery after last November's terrorist attacks showed such resilience. Within a week stores and restaurants were open again in neighborhoods that had been raked by gunfire, and international travelers were returning to the city. [83]

The Taj Mahal Palace & Tower was one of the main attack targets. Afterwards, Ratan Tata, grand-nephew of the Indian industrialist who built the five-star hotel, said, "We can be hurt, but we can't be knocked down." [84] ■

Notes

[1] Ben Sutherland, "Slum Dwellers 'to top 2 billion,' " BBC News, June 20, 2006, http://news.bbc.co.uk/2/hi/in_depth/5099038.stm.

[2] United Nations Population Fund, *State of World Population 2007: Unleashing the Potential of Urban Growth* (2007), p. 6.

[3] UN-HABITAT, *State of the World's Cities 2008/2009* (2008), p. xi.

[4] UN-HABITAT, *op cit.*, p. 90.

[5] *Ibid.*, p. 92.

[6] *Ibid.*, pp. 90-105.

[7] Anna Tibaijuka, "The Challenge of Urbanisation and the Role of UN-HABITAT," lecture at the Warsaw School of Economics, April 18, 2008, p. 2, www.unhabitat.org/downloads/docs/5683_16536_ed_warsaw_version12_1804.pdf.

[8] For background see Peter Katel, "Ending Poverty," *CQ Researcher*, Sept. 9, 2005, p. 733-760.

[9] For details, see www.endpoverty2015.org. For background, see Peter Behr, "Looming Water Crisis," *CQ Global Researcher*, February 2008, pp. 27-56.

[10] Tobias Just, "Megacities: Boundless Growth?" Deutsche Bank Research, March 12, 2008, pp. 4-5.

[11] Commission on Legal Empowerment of the Poor, *Making the Law Work for Everyone* (2008), pp. 5-9, www.undp.org/legalempowerment/report/Making_the_Law_Work_for_Everyone.pdf.

[12] Angel Rabasa, *et al.*, "The Lessons of Mumbai," *RAND Occasional Paper*, 2009, pp. 1-2, www.rand.org/pubs/occasional_papers/2009/RAND_OP249.pdf.

[13] Wieland Wagner, "As Orders Dry Up, Factory Workers Head Home," *Der Spiegel*, Jan. 8, 2009, www.spiegel.de/international/world/0,1518,600188,00.html; Malcolm Beith, "Reverse Migration Rocks Mexico," *Foreign Policy.com*, February 2009, www.foreignpolicy.com/story/cms.php?story_id=4731; Anthony Faiola, "A Global Retreat As Economies Dry Up," *The Washington Post*, March 5, 2009, www.washingtonpost.com/wp-dyn/content/story/2009/03/04/ST2009030404264.html.

[14] For background, see David Masci, "Emerging India, *CQ Researcher*, April 19, 2002, pp. 329-360; and Peter Katel, "Emerging China," *CQ Researcher*, Nov. 11, 2005, pp. 957-980.

[15] For background, see Mary H. Cooper, "Exporting Jobs," *CQ Researcher*, Feb. 20, 2004, pp. 149-172.

[16] Ji Yongqing, "Dalian Becomes the New Outsourcing Destination," *China Business Feature*, Sept. 17, 2008, www.cbfeature.com/industry_spotlight/news/dalian_becomes_the_new_outsourcing_destination.

[17] Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century*, updated edition (2006), pp. 24-28, 463-464.

[18] Priya Deshingkar and Claudia Natali, "Internal Migration," in *World Migration 2008* (2008), p. 183.

[19] Views expressed here are the speaker's own and do not represent those of his employer.

[20] Martin Ravallion, Shaohua Chen and Prem Sangraula, "New Evidence on the Urbanization of Global Poverty," World Bank Policy Research Working Paper 4199, April 2007, http://siteresources.worldbank.org/INTWDR2008/Resources/2795087-1191427986785/RavallionMEtAl_UrbanizationOfGlobalPoverty.pdf.

[21] For background on the *hukou* system, see Congressional-Executive Commission on China, "China's Household Registration System: Sustained Reform Needed to Protect China's Rural Migrants," Oct. 7, 2005, www.cecc.gov/pages/news/hukou.pdf; and Hayden Windrow and Anik Guha, "The Hukou

System, Migrant Workers, and State Power in the People's Republic of China," *Northwestern University Journal of International Human Rights*, spring 2005, pp. 1-18.

[22] Wu Zhong, "How the Hukou System Distorts Reality," *Asia Times*, April 11, 2007, www.atimes.com/atimes/China/ID11Ad01.html; Rong Jiaojiao, "Hukou 'An Obstacle to Market Economy,' " *China Daily*, May 21, 2007, www.chinadaily.com.cn/china/2007-05/21/content_876699.htm.

[23] "Scientific Outlook on Development," "Full text of Hu Jintao's report at 17th Party Congress," section V.5, Oct. 24, 2007, http://news.xinhuanet.com/english/2007-10/24/content_6938749.htm.

[24] Wu Zhong, "Working-Class Heroes Get Their Day," *Asia Times*, Oct. 24, 2007, www.atimes.com/atimes/China_Business/IJ24Cb01.html.

[25] "Internal Migration, Poverty and Development in Asia," *Briefing Paper no. 11*, Overseas Development Council, October 2006, p. 3.

[26] Clare T. Romanik, "An Urban-Rural Focus on Food Markets in Africa," The Urban Institute, Nov. 15, 2007, p. 30, www.urban.org/publications/411604.html.

[27] UN-HABITAT, *op. cit.*, pp. 24-26.

[28] "How Shifts to Smaller Family Sizes Contributed to the Asian Miracle," *Population Action International*, July 2006, www.popact.org/Publications/Fact_Sheets/FS4/Asian_Miracle.pdf.

[29] Edson C. Tandoc, Jr., "Says UP Economist: Lack of Family Planning Worsens Poverty," *Philippine Daily Inquirer*, Nov. 11, 2008, http://newsinfo.inquirer.net/breakingnews/nation/view/20081111-171604/Lack-of-family-planning-worsens-poverty; Blaine Harden, "Birthrates Help Keep Filipinos in Poverty," *The Washington Post*, April 21, 2008, www.washingtonpost.com/wp-dyn/content/story/2008/04/21/ST2008042100778.html.

[30] Kenneth Fletcher, "Colombia Dispatch 11: Former Bogotá Mayor Enrique Peñalosa," Smithsonian.com, Oct. 29, 2008, www.smithsonianmag.com/travel/Colombia-Dispatch-11-Former-Bogota-mayor-Enrique-Penalosa.html.

[31] Charles Montgomery, "Bogota's Urban Happiness Movement," *Globe and Mail*, June 25, 2007, www.theglobeandmail.com/servlet/story/RTGAM.20070622.whappyurbanmain0623/BNStory/lifeMain/home.

[32] Bus Rapid Transit Planning Guide, 3rd edition, Institute for Transportation & Development Policy, June 2007, p. 1, www.itdp.org/documents/Bus%20Rapid%20Transit%20Guide%20%20complete%20guide.pdf.

[33] Project details at www.masdaruae.com/en/home/index.aspx.

[34] Awad and Schuler remarks at Greenbuild 2008 conference, Boston, Mass., Nov. 20, 2008.

[35] "Green Dreams," Frontline/World, www.pbs.org/frontlineworld/fellows/green_dreams/; Danielle Sacks, "Green Guru Gone Wrong: William McDonough," *Fast Company*, Oct. 13, 2008, www.fastcompany.com/magazine/130/the-mortal-messiah.html; Timothy Lesle, "Cradle and All," *California Magazine*, September/October 2008, www.alumni.berkeley.edu/California/200809/lesle.asp.

[36] Shannon May, "Ecological Crisis and Eco-Villages in China," *Counterpunch*, Nov. 21-23, 2008, www.counterpunch.org/may11212008.html.

[37] Rujun Shen, "Eco-city seen as Expensive 'Green-Wash,'" *The Standard* (Hong Kong), June 24, 2008, www.thestandard.com.hk/news_detail.asp?we_cat=9&art_id=67641&sid=19488136&con_type=1&d_str=20080624&fc=8; see also Douglas McGray, "Pop-Up Cities: China Builds a Bright Green Metropolis," *Wired*, April 24, 2007, www.wired.com/wired/archive/15.05/feat_popup.html; Malcolm Moore, "China's Pioneering Eco-City of Dongtan Stalls," *Telegraph*, Oct. 19, 2008, www.telegraph.co.uk/news/worldnews/asia/china/3223969/Chinas-pioneering-eco-city-of-Dongtan-stalls.html; "City of Dreams," *Economist*, March 19, 2009, www.economist.com/world/asia/displaystory.cfm?story_id=13330904.

[38] Details at www.tianjinecocity.gov.sg/.

[39] "LEED Projects and Case Studies Directory," U.S. Green Building Council, www.usgbc.org/LEED/Project/RegisteredProjectList.aspx.

[40] Remarks at Greenbuild 2008 conference, Boston, Mass., Nov. 20, 2008.

[41] Population Reference Bureau, "Urbanization," www.prb.org; Tertius Chandler, *Four Thousand Years of Urban Growth: An Historical Census* (1987).

[42] Lewis Mumford, *The City In History: Its Origins, Its Transformations, and Its Prospects* (1961), pp. 417-418.

[43] Frederick Engels, *The Condition of the Working Class in England* (1854), Chapter 7 ("Results"), online at Marx/Engels Internet Archive, www.marxists.org/archive/marx/works/1845/condition-working-class/ch07.htm.

[44] Population Reference Bureau, *op. cit.*

[45] Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (1975).

[46] Jane Jacobs, *The Death and Life of Great American Cities* (1961).

[47] Mumford, *op. cit.*, pp. 454-455.

[48] Joshua Kurlantzick, "The Big Mango Bounces Back," *World Policy Journal*, spring 2000, www.worldpolicy.org/journal/articles/kurlant.html; UN-HABITAT, *op. cit.*, pp. 74-76.

[49] BBC News, "Interactive Map: Urban Growth," http://news.bbc.co.uk/2/shared/spl/hi/world/06/urbanisation/html/urbanisation.stm.

[50] Licia Valladares and Magda Prates Coelho, "Urban Research in Latin America: Towards a Research Agenda," MOST Discussion Paper Series No. 4 (undated), www.unesco.org/most/valleng.htm#trends.

[51] Jose de Gregorie, "Sustained Growth in Latin America," Economic Policy Papers, Central Bank of Chile, May 2005, www.bcentral.cl/eng/studies/economic-policy-papers/pdf/dpe13eng.pdf.

[52] UN-HABITAT, *op cit.*, pp. 70-74.

[53] Hernando de Soto, *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else* (2000), excerpted at http://ild.org.pe/en/mystery/english?page=0%2C0.

[54] Deepak Kindo, "Microfinance Services to the Urban Poor," *Microfinance Insights*, March 2007; World Bank, "10 Years of World Bank Support for Microcredit in Bangladesh," Nov. 5, 2007; "Micro Finance Gaining in Popularity," *The Hindu*, Aug. 25, 2008, www.hindu.com/biz/2008/08/25/stories/2008082550121600.htm.

[55] Michael Richardson, "Clinton Warns APEC of 'Digital Divide,'" *International Herald Tribune*, Nov. 16, 2000, www.iht.com/articles/2000/11/16/apec.2.t_2.php.

[56] Abigail Keene-Babcock, "Study Shows Half the World's Population With Mobile Phones by 2008," Dec. 4, 2007, www.nextbillion.net/news/study-shows-half-the-worlds-population-with-mobile-phones-by-200.

[57] "Millennium Development Goals Report 2008," United Nations, p. 48, www.un.org/millenniumgoals/pdf/The%20Millennium%20Development%20Goals%20Report%202008.pdf.

[58] Robyn Dixon, "Zimbabwe Slum Dwellers Are Left With Only Dust," *Los Angeles Times*, June 21, 2005, http://articles.latimes.com/2005/jun/21/world/fg-nohomes21.

[59] Ewen MacAskill, "UN Report Damns Mugabe Slum Clearance as Catastrophic," *Guardian*, July 23, 2005, www.guardian.co.uk/world/2005/jul/23/zimbabwe.ewenmacaskill.

[60] Freedom House, "Freedom in the World 2008: Zimbabwe," www.freedomhouse.org/uploads/press_release/Zimbabwe_FIW_08.pdf.

[61] "Crisis Reveals Growing Finance Gaps for Developing Countries," World Bank, March 8, 2009, http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22093316~menuPK:34463~pagePK:34370~piPK:34424~theSitePK:4607,00.html.

[62] "Swimming Against the Tide: How Developing Countries Are Coping with the Global Crisis," World Bank, background paper prepared for the G20 finance Ministers meeting, March 13-14, 2009, http://siteresources.worldbank.org/NEWS/Resources/swimmingagainstthetide-march2009.pdf.

[63] "Major Victories for City Priorities in American Recovery and Reinvestment Act," U.S. Conference of Mayors, Feb. 23, 2009, www.usmayors.org/usmayornewspaper/documents/02_23_09/pg1_major_victories.asp.

[64] Carter Dougherty, "Chinese Premier Injects Note of Optimism at Davos," *The New York Times*, Jan. 29, 2009, www.nytimes.com/2009/01/29/business/29econ.html?partner=rss.

[65] Jamil Anderlini and Geoff Dyer, "Downturn Causes 20m Job Losses in China," *Financial Times*, Feb. 2, 2009, www.ft.com/cms/s/0/19c25aea-f0f5-11dd-8790-0000779fd2ac.html.

[66] Joe McDonald, "World Bank Cuts China's 2009 Growth Forecast," The Associated Press, March 18, 2009.

[67] "Bill and Melinda Gates Urge Global Leaders to Maintain Foreign Aid," Bill and Melinda Gates Foundation, Jan. 30, 2009, www.gatesfoundation.org/press-releases/Pages/2009-world

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-economic-forum-090130.aspx.

[68] Mark Landler and David E. Sanger, "World Leaders Pledge $1.1 Trillion to Tackle Crisis," *The New York Times*, April 4, 2009, www.nytimes.com/2009/04/03/world/europe/03summit.html?_r=1&hp.

[69] "Is Demolition the Way to Go?" World Bank, www.worldbank.org/urban/upgrading/demolition.html.

[70] "What Is Urban Upgrading?" World Bank, www.worldbank.org/urban/upgrading/what.html.

[71] For more information, see "Urban Poor Fund," *Shack/Slum Dwellers International*, www.sdinet.co.za/ritual/urban_poor_fund/.

[72] Neal R. Peirce, "Gates Millions, Slum-Dwellers: Thanksgiving Miracle?" *Houston Chronicle*, Nov. 22, 2007, www.sdinet.co.za/static/pdf/sdi_gates_iupf_neal_peirce.pdf.

[73] "Statement at the African Ministerial Conference on Housing and Urban Development," UN-HABITAT, Abuja, Nigeria, July 28, 2008, www.unhabitat.org/content.asp?cid=5830&catid=14&typeid=8&subMenuId=0.

[74] Michael Meyer, *The Last Days of Old Beijing* (2008), pp. 54-55; Richard Spencer, "History is Erased as Beijing Makes Way for Olympics," *Telegraph* (London), June 19, 2006, www.telegraph.co.uk/news/worldnews/asia/china/1521709/History-is-erased-as-Beijing-makes-way-for-Olympics.html; Michael Sheridan, "Old Beijing Falls to Olympics Bulldozer," *Sunday Times* (London), April 29, 2007, www.timesonline.co.uk/tol/news/world/asia/china/article1719945.ece.

[75] Meyer, *op. cit.*, pp. 45, 52.

[76] Solomon J. Greene, "Staged Cities: Mega-Events, Slum Clearance, and Global Capital," *Yale Human Rights & Development Law Journal*, vol. 6, 2003, http://islandia.law.yale.edu/yhrdlj/PDF/Vol%206/greene.pdf.

[77] Slum Rehabilitation Authority, "Dharavi Development Project," www.sra.gov.in/htmlpages/Dharavi.htm; Porus P. Cooper, "In India, Slum May Get Housing," *Philadelphia Inquirer*, Sept. 22, 2008.

[78] Mukul Devichand, "Mumbai's Slum Solution?" BBC News, Aug. 14, 2008, http://news.bbc.co.uk/2/hi/south_asia/7558102.stm.

[79] Henry Chu, "Dharavi, India's Largest Slum, Eyed By Mumbai Developers," *Los Angeles Times*, Sept. 8, 2008, www.latimes.com/news/nationworld/world/la-fg-dharavi8-2008sep08,0,1830588.story; see also Dominic Whiting, "Dharavi Dwellers Face Ruin in Development Blitz," Reuters, June 6, 2008, http://in.reuters.com/article/topNews/idINIndia-33958520080608; and

Bibliography

Selected Sources

Books

Meyer, Michael, *The Last Days of Old Beijing: Life in the Vanishing Backstreets of a City Transformed*, Walker & Co., 2008.
An English teacher and travel writer traces Beijing's history and describes life in one of its oldest neighborhoods as the city prepared to host the 2008 Olympic Games.

Silver, Christopher, *Planning the Megacity: Jakarta in the Twentieth Century*, Routledge, 2007.
An urban scholar describes how Indonesia's largest city grew from a colonial capital of 150,000 in 1900 into a megacity of 12-13 million in 2000, and concludes that overall the process was well-planned.

***2007 State of the World: Our Urban Future*, Worldwatch Institute, Norton, 2007.**
Published by an environmental think tank, a collection of articles on issues such as sanitation, urban farming and strengthening local economies examines how cities can be healthier and greener.

Articles

"The 2008 Global Cities Index," *Foreign Policy*, November/December 2008, www.foreignpolicy.com/story/cms.php?story_id=4509.
Foreign Policy magazine, the Chicago Council on World Affairs and the A.T. Kearney management consulting firm rank the world's most "global" cities in both industrialized and developing countries, based on economic activity, human capital, information exchange, cultural experience and political engagement.

"Mexico City Bikers Preach Pedal Power in Megacity," The Associated Press, Dec. 28, 2008.
Bicycle activists are campaigning for respect in a city with more than 6 million cars, taxis and buses.

Albright, Madeleine, and Hernando De Soto, "Out From the Underground," *Time*, July 16, 2007.
A former U.S. Secretary of State and a prominent Peruvian economist contend that giving poor people basic legal rights can help them move from squatter communities and the shadow economy to more secure lives.

Bloom, David E., and Tarun Khanna, "The Urban Revolution," *Finance & Development*, September 2007, pp. 9-14.
Rapid urbanization is inevitable and could be beneficial if leaders plan for it and develop innovative ways to make cities livable.

Chamberlain, Gethin, "The Beating Heart of Mumbai," *The Observer*, Dec. 21, 2008, www.guardian.co.uk/world/2008/dec/21/dharavi-india-slums-slumdog-millionaire-poverty.
Eight boys growing up in Dharavi, Asia's largest slum, talk about life in their neighborhood.

Osnos, Evan, "Letter From China: The Promised Land," *The New Yorker*, Feb. 9, 2009, www.newyorker.com/reporting/2009/02/09/090209fa_fact_osnos.
Traders from at least 19 countries have set up shop in the Chinese coastal city of Guangzhou to make money in the export-import business.

Packer, George, "The Megacity," *The New Yorker*, Nov. 13, 2006, www.newyorker.com/archive/2006/11/13/061113fa_fact_packer.
Lagos, Nigeria, offers a grim picture of urban life.

Schwartz, Michael, "For Russia's Migrants, Economic Despair Douses Flickers of Hope," *The New York Times*, Feb. 9, 2009, www.nytimes.com/2009/02/10/world/europe/10migrants.html?n=Top/Reference/Times%20Topics/People/P/Putin,%20Vladimir%20V.
Russia has an estimated 10 million migrant workers, mainly from former Soviet republics in Central Asia — some living in shanty towns.

Reports and Studies

"Ranking of the World's Cities Most Exposed to Coastal Flooding Today and in the Future," Organization for Economic Cooperation and Development, 2007, www.rms.com/Publications/OECD_Cities_Coastal_Flooding.pdf.
As a result of urbanization and global climate change, up to 150 million people in major cities around the world could be threatened by flooding by 2070.

"State of World Population 2007," U.N. Population Fund, 2007, www.unfpa.org/upload/lib_pub_file/695_filename_sowp2007_eng.pdf.
A U.N. agency outlines the challenges and opportunities presented by urbanization and calls on policy makers to help cities improve residents' lives.

"State of the World's Cities 2008/2009: Harmonious Cities," UN-HABITAT, 2008.
The biennial report from the U.N. Human Settlements Programme surveys urban growth patterns and social, economic and environmental conditions in cities worldwide.

The Next Step:

Additional Articles from Current Periodicals

China's Air Quality

"Beijing's Bad Air Days," *Bangkok Post* **(Thailand), Sept. 1, 2007.**

Beijing's air pollution isn't any worse that is has been over the past two decades, but it has become more political and integral to China's international image.

Kono, Hiroko, "Cooperation Needed on China's Dirty Air," *Yomiuri Shimbun* **(Japan), April 24, 2008.**

Despite local efforts to curb Chinese air pollution, many experts insist that international cooperation is necessary to fully address the problem.

Oster, Shai, "China Disputes Criticism of Its Air-Pollution Data," *The Wall Street Journal*, **July 11, 2008, p. A7.**

Officials dispute charges that China's air pollution has worsened due to loose regulations and data manipulation.

City Migration

"Migration From Rural to Urban Areas Reversed," *Turkish Daily News*, **Dec. 27, 2008.**

The global financial crisis has caused many Turkish families to return to their rural roots to survive the economic hard times.

"Small Cities to Drive Urban Growth," *The Times of India*, **June 29, 2007.**

While megacities continue to dominate the urban boom, many smaller cities are growing at much higher rates, according to the U.N. Population Fund.

Kashif, Alia, "Urbanisation Increasing at 58 Percent," *Business Recorder* **(Pakistan), Sept. 30, 2007.**

Increased migration to Islamabad, Pakistan, has raised the cost of accommodations, inflated food prices and increased transportation costs.

Obaid, Thoraya Ahmed, and Jean-Michel Severino Le Monde, "Urban Growth Is a Chance for Change," *The Guardian* **(England), July 6, 2007.**

Poverty may go hand-in-hand with increased migration into cities, but it is not the direct cause of it.

Greening

"Activists Demand More Green Spaces," *Jakarta Post* **(Indonesia), Dec. 15, 2008.**

The Indonesian Forum for the Environment is imploring the Jakarta city administration to implement more consistent and sustainable pro-environment policies.

"The Green Giant?" *South China Morning Post*, **July 23, 2007.**

Megacities and their efficient use of resources are the best way for China to contain damage to the environment without hindering growth.

"Lagos — From 'Ghetto' to Garden City?" *This Day* **(Nigeria), Sept. 11, 2008.**

The city government of Lagos has embarked upon an aggressive campaign to plant 1 million trees in the region within a decade.

Rogers, Monica Kass, "It's Not Easy Building Green," *Chicago Tribune*, **Jan. 31, 2008, p. C1.**

A lack of education about energy conservation and bureaucratic obstacles hinder Chicago's progress in becoming a greener city.

Natural Disasters

"China Heightens Grid-Building Standard to Guard Against Disasters," *Asia Pulse* **(Australia), July 3, 2008.**

China's State Council has agreed to improve the disaster-prevention capacity of the country's power grid.

"World Bank Says Asian Cities at Risk," *Bangkok Post* **(Thailand), July 19, 2008.**

Coastal cities in Burma, China, Thailand and Vietnam are among the most vulnerable cities in the world to climate-change-related rising sea levels, according to the World Bank.

Sharq, Masih, "Natural Disasters Can Strike at Any Time," *Daily Afghanistan*, **July 2, 2007.**

The deterioration of infrastructure in Afghan cities has made them vulnerable to natural disasters, making it difficult to control damage to human beings, property and infrastructure.

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CHICAGO STYLE

Flamini, Roland. "Nuclear Proliferation." *CQ Global Researcher*, April 1, 2007, 1-24.

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DAVID DODMAN
Researcher, International Institute for Environment and Development, England

Cities aren't to blame for climate change.

"Blaming cities for climate change is far too simplistic. There are a lot of economies of scale associated with energy use in cities. If you're an urban dweller, particularly in an affluent country like Canada or the U.K., you're likely to be more efficient in your use of heating fuel and in your use of energy for transportation."

Toronto Star, March 2009

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State Governor Lagos, Nigeria

Megacities create many challenges.

"Because of human activities there will be conflict and there will be the issue of security, everybody fighting for control, and these are some of the challenges that come with the status of a megacity. It is really a status that creates certain challenges that the government must respond to."

This Day (Nigeria), November 2007

JONATHAN WOETZEL
Director, McKinsey & Company, Shanghai

Migration to China could cause problems.

"The fact that 40 to 50 per cent of [Chinese] cities [by 2025] could be made up of migrant workers is a real wake-up call. Smaller cities in particular are going to face a growing challenge if they are to provide equal access to social services."

Irish Times, March 2008

THE WORLD BANK

Singapore does it right.

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"Many of tomorrow's city dwellers will be poor, swelling the ranks of the billion who already live in slums, but however bad their predicament, experience shows that newcomers do not leave the city once they have moved. . . . They are also remarkably productive. Economists agree that informal work makes a vital contribution to the urban economy and is a key growth factor in developing countries."

The Guardian (England), July 2007

ZHU TONG
Environmental Scientist, Peking University

Different air standards cause confusion.

"Different countries vary in their air quality standards, and the WHO does not have a binding set of standards. China's national standards are not as high as those in developed countries, which has led to disagreements, confusion or even misunderstandings."
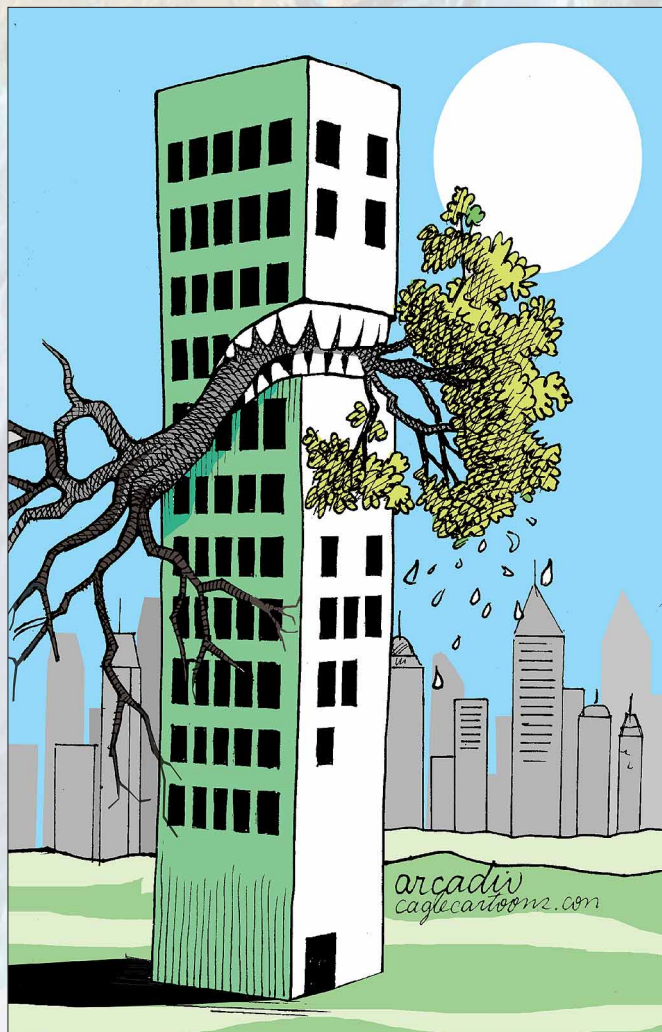
South China Morning Post, July 2008

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Lecturer, University of Hasanuddin, Indonesia

Opportunities lead to migration.

"The lack of job and economic opportunities in rural areas justifies migration to the cities as a survival strategy. It is a rational choice made by villagers because cities generally have more jobs to offer. It's impossible to reduce urbanization through the repressive approach."

Jakarta Post (Indonesia), October 2008