

CITIES, SCIENCE AND SUSTAINABILITY

THIS YEAR WILL MARK A MILESTONE IN THE GLOBAL MIGRATION OF PEOPLE. FOR THE FIRST TIME IN HUMAN HISTORY, MORE THAN 50 PERCENT OF THE WORLD'S POPULATION WILL LIVE IN CITIES. AN INTERNATIONAL WORKSHOP HELD IN TRIESTE IN SEPTEMBER 2007 EXAMINED BROAD-RANGING STRATEGIES FOR MAKING CITIES IN THE DEVELOPING WORLD MORE SUSTAINABLE.

Humanity's past resided on farms and in rural villages. But humanity's future will unfold in urban settings. Effectively addressing the complexity of issues associated with unprecedented and unrelenting urban growth will be among the most fundamental challenges of our time. That was the focus of the workshop on 'Cities, Science and Sustainability' held in Trieste, Italy, from 20 to 22 September 2007. More than 20 people from countries throughout the South participated in the event which was co-sponsored by TWAS, the United Nations Development Programme's Special Unit for South-South Cooperation (UNDP/SSC) and the United Nations University's Institute for Advanced Studies (UNU/IAS).



In 1900, some 220 million people, or 13 percent of the world's population, lived in cities. A century later, the figure stood at 2.8 billion people, or nearly 47 percent of the world's population.

Currently, one million people across the globe migrate to cities weekly. If current trends continue, and there is no reason to believe that they won't, by 2050 an estimated 6 billion people, or more than two-thirds of humanity, will reside in cities.

A century ago, only 16 cities were home to more than one million people and most of these cities were located in developed countries. Today, there are 400 cities with at least one million people and 75 percent of these cities are in developing countries.



Fifty years ago, cities of 10 million people or more – so-called megacities – were virtually nonexistent. Today, there are 16 such urban conglomerations, most of which are in the developing world. Mexico City’s population stands at more than 18 million. Bombay and São Paulo at more than 17 million. Karachi 15. Lagos 13. Buenos Aires 12.

Large cities may capture the public’s attention but most people live in small- and medium-sized cities. Indeed more than half of all city dwellers live in cities with less than 500,000 inhabitants and nearly a quarter live in cities with populations between one and five million.

Beyond the overall global pace of urban growth, what’s also significant is that most of this growth is taking place in the developing world.

Sub-Saharan Africa is the world’s most rapidly urbanizing region. At the current annual rate of urban growth of more than 4.5 percent a year, it is estimated that by 2030 the urban population of Africa will reach 750 million. That’s larger than the current population of Europe. Africa, however, is not alone. The urban population of Asia is expected to more than double from 1.3 billion to 2.64 billion and the urban population of Latin American and the Caribbean is expected to rise almost as dramatically from 394 million to 609 million. Demographers predict that by 2030 more than 60 percent of the population of developing countries will be living in cities.

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Never before have so many people migrated so rapidly. Never before have so many poor people in poor countries been so mobile.

Jobs may lure people to cities but it’s science and technology that make it possible for people to reside in cities and that enable cities to serve as magnets for growth. That’s true whether we are talking about 19th century textile factories or 21st century call centres.

History tells us that cities are places where innovation flourishes and where problems often become opportunities.

This was certainly the case in the developed world where, over the course of two centuries, cities devised effective systems for managing water, waste and transportation despite their rising populations. Growth, of course, did not occur without crises but crises were

largely overcome. There is no doubt that the quality of life for the majority of citizens in London, New York City and Tokyo, with all of the risks, worries and inconveniences that modern urban living brings, is better today than it was in the 19th century

and that people today are living longer and healthier lives.

There is reason to believe that the same arc of progress will take place in cities in the developing world. Yet there is also cause for concern. That’s because the circumstances found in the developing world today are not the same as those found during the explosive period of urban development that took place in the developed world a century or two ago: The pace of urban growth in the developing world is infinitely faster, the resource base is smaller, and the institutions designed to respond to these challenges are often not as strong. Moreover,



many of today's 'borderless' global challenges – global warming, for example – suggest that cities may not be in control of their own destiny regardless of how effective their policies may be at the local and regional levels.

Urban centres may be focal points of innovation. But they are also places where poor people tend to live. United Nations Habitat estimates that between one-quarter and one-half of the population in many cities in developing countries live in informal or illegal settlements. Will our planet of gleaming steel-and-glass cities also be a planet of tar-papered slums and shantytowns? Nearly three out of four urban dwellers in sub-Saharan Africa – and nearly one out of three urban dwellers worldwide – live in conditions marked by inadequate access to safe drinking water, poor sanitation, deplorable housing and insecure land tenure. Wise policies will be instrumental in solving these problems. But so will effective applications of science and technology.

The workshop on 'Cities, Science and Sustainability' was designed to explore how cities in the developing world are coping with the challenges posed by the

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unprecedented pace of urbanization. The case studies, exploring issues ranging from water and waste management, to transportation and air pollution, to housing and liveability, and to training and communication, examined the ways in which science and technology are being used to improve the lives of the growing numbers of people who call the city their home.

The ultimate aim of the workshop was not just to present ideas but also to share experiences. It marked the latest instalment of a series of workshops that have been organized over the past decade by TWAS, in cooperation with the UNDP/SSC and more recently, the UNU/IAS. As in the past, the presentations featured in this workshop will provide the basis for a book to be published by the UNDP/SSC and made freely available on the internet.

By bringing together researchers and practitioners, the workshop organizers hope to facilitate the exchange of experience and information in ways that will help participants refine and expand their knowledge for dealing with issues of critical importance to their communities and, in this case, their cities. It is also our hope that the subsequent publication will fulfil our larger goal of bringing innovative experiences in applications of science

and technology to a wider audience of scientists, development specialists and decision-makers.

The developing world will face many critical issues in the years ahead: challenges related to poverty, education, public health, energy and the environment. The question of 'where' to live has largely been settled.

There is little doubt that the vast majority of people in the years ahead will live in cities. But the question of 'how' to live in cities remains unanswered and it's the 'how' that will largely determine whether we are able to chart a successful path to a sustainable future. ■

❖ For additional information about TWAS-UNDP/SSC-UNU/IAS's sharing innovative experiences series, see tcdc.undp.org.

For additional information about the 'Cities, Science and Sustainability' workshop, contact info@twas.org.