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Department of Economic and Social Affairs
Division for Public Administration and
Development Management

Sustainable Urbanization in the Information Age

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The titles of the authors reflect their positions in April 2008.

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United Nations Department of Economic and Social Affairs

The Department of Economic and Social Affairs of the United Nations Secretariat is a vital interface between global policies in the economic, social and environmental spheres and national action. The Department works in three main interlinked areas: (i) it compiles, generates and analyses a wide range of economic, social and environmental data and information on which States Members of the United Nations draw to review common problems and to take stock of policy options; (ii) it facilitates the negotiations of Member States in many intergovernmental bodies on joint courses of action to address ongoing or emerging global challenges; and (iii) it advises interested Governments on the ways and means of translating policy frameworks developed in United Nations conferences and summits into programmes at the country level and, through technical assistance, helps build national capabilities.

Global Alliance for ICT and Development

The Global Alliance for Information and Communication Technologies and Development (GAID), an initiative approved by the United Nations Secretary-General in 2006, was launched after comprehensive worldwide consultations with Governments, the private sector, civil society, the technical and Internet communities and academia.

While the 2005 United Nations Summit and the WSIS Summit emphasized the importance of ICT in achieving the internationally agreed development goals, including the Millennium Development Goals (MDGs), there was a need for a truly global forum that would comprehensively address cross-cutting issues related to ICT in development. Recognizing that no single actor is capable of achieving the MDGs in isolation, the creation of an open and inclusive platform that can broaden the dialogue on innovative ways of harnessing ICT for advancing development is crucial.

The Global Alliance is a direct response to this need. With its multi-stakeholder approach, the Alliance reaffirms the belief that a people-centered and knowledge-based information society is essential for achieving better life for all.

PREFACE

H.E. Léo Mérorès
President of the Economic and Social Council, Permanent Representative of Haiti to the United Nations, New York

One of the principal pursuits of the United Nations is to promote economic and social advancement of all peoples, and the organ which leads this effort is the Economic and Social Council (ECOSOC). Working not just for present generations but also for the future, the Council advocates a truly sustainable kind of development – a development that reflects a careful balance of economic growth, social development and environmental protection.

The key mechanism through which it does so is the Council's Commission for Sustainable Development (CSD), a high-level forum on sustainable development. This functional commission was created to ensure effective follow-up of the Earth Summit, held in 1992 in Rio de Janeiro. Its functions have since expanded so that it may respond to new needs.

The Economic and Social Council itself has discussed progress made towards sustainable development during the 2008 Annual Ministerial Review (AMR), held in New York in July during the Council's Substantive Session. Selected as 2008's Review theme, sustainable development was a broad subject, but today's topic – sustainable urbanization – is a significant component of the Review.

Other events leading up the Review also contributed to the AMR preparations, including a six-week e-discussion co-organized by the United Nations Department of Economic and Social Affairs (UNDESA) and United Nations Development Programme (UNDP), and a global preparatory event held at headquarters in March of this year. Eight countries – four developed and four developing – held national consultations to review their progress towards the internationally agreed development goals -- including goals on sustainable development -- which they presented to the Council during the AMR National Voluntary Presentations.

A regional AMR preparatory meeting on the theme of sustainable urbanization was hosted by the Government of the Kingdom of Bahrain in Manama, where participants from the Western Asia region discussed issues related to sustainable urbanization, including urban infrastructure and access

to services, green architecture, and financing (including through Islamic banking) and technology transfer for sustainable development.

The trend towards urbanization is inexorable and increasingly swift. In 2008, for the first time in history, more than half the world's population is living in urban areas. And over the next few decades there will be unprecedented scale of urban growth in the developing world.

Rather than fear the shift from rural to urban, we have an opportunity to leverage it to ensure sustainable development. What we need is sustainable urbanization. Sustainable urbanization is a multi-dimensional process that requires social, economic and political-institutional sustainability, as well as environmental sustainability.

The key actors necessary to achieve sustainable development are **local authorities** endowed with adequate powers, resources, and operational capacity, combined with **empowered communities** and other **local partners from civil society and the private sector**.

This book will examine policies and actions that might provide new, more effective responses to poverty, social injustice, environmental degradation and other challenges as humans increasingly congregate in urban agglomerations. We shall learn about the experiences of cities around the world. We will examine how the private sector and civil society can contribute to achieving sustainable urbanization. There should be no doubt that we have much to learn from one another.We can wait no longer. We must prepare for the future today. We must come to terms with rapid urbanization and urban growth. We must work together to ensure the effective management of these processes in order to achieve functional, resilient and responsive human settlement.

FOREWORD

Sha Zukang
Under-Secretary-General for Economic and Social Affairs, United Nations

Urbanization is one of the defining trends of our time. Nearly 60 million people are added to the urban population annually in developing countries, a significant part of that growth coming from migrations from rural areas to cities. This rapid growth is expected to continue well into this century.

Cities all over the developing world have become beacons of social and economic development. However, many cities also face daunting challenges related to economic, social and environmental issues. Therefore, finding ways to make this rapid urbanization more sustainable is one of the major challenges that we have to face in order to meet global development objectives.

The Forum on Sustainable Urbanization in the Information Age sought to address the global challenges posed by rapid urbanization by calling for better sustainable planning for urban growth. It was a notable opportunity to share best practices among nations, as well as to discuss the political means to effect change. The Forum also emphasized that sustainable urban development must include all stakeholders, going beyond the public sector by involving both the private sector and civil society.

It is imperative that the issues associated with worldwide urbanization be confronted in an informed and inspired way, in order to create the preconditions for a sustainable environment and prosperous, healthy and fulfilling lives for millions of people around the world. Sustainable urban design and architecture are key tools that seek to improve living conditions while preventing inequality and exclusion.

Better integration of all sectors of the economy into the urban fabric is now possible thanks to the development of information and communication technologies (ICTs). For example, electronic waste markets can support active reductions in material consumption and waste, by allowing some sectors to use outputs produced by other sectors as inputs for their own production. This is only one of the many examples where ICTs bring new tools for better planning, increased and more participatory communication between citizens and representatives, and ultimately more sustainable cities.

ACKNOWLEDGEMENTS

We would like to express deep appreciation and thanks to all speakers, moderators, chairs, respondents, mayors and city officials for their invaluable contribution to the Forum on Sustainable Urbanization in the Information Age and to this book.

We are particularly grateful to Mr. Sha Zukang, United Nations Under-Secretary-General for Economic and Social Affairs, Ms. Anna Kajumulo Tibaijuka, United Nations Under-Secretary-General and Executive Director of the United Nations Human Settlements Programme (UN-HABITAT), Ms. Haiyan Qian, Director of the Division for Public Administration and Development Management and Mr. Michael Adlerstein, United Nations Assistant Secretary-General and Executive Director of the Capital Master Plan for their valuable support of the "Sustainable Urbanization in the Information Age" initiative. We are obliged to Mr. Sarbuland Khan, Executive Coordinator of the Global Alliance for Information and Communication Technologies and Development.

We wish to acknowledge the indispensable assistance given by the co-organizers of the Forum on Sustainable Urbanization in the Information Age, in particular Mr. James McCullar, President, American Institute of Architects - New York Chapter, Mr. Rick Bell, Executive Director, American Institute of Architects - New York Chapter, Mr. Urs Gauchat, Dean, School of Architecture, New Jersey Institute of Technology, Mr. Lance Jay Brown, Professor, School of Architecture, City University of New York, Mr. Thomas K. Wright, Executive Director, Regional Plan Association, Mr. Ernest W. Hutton, Co-Chair, New York New Visions and Ms. Axumite Gebre-Egziabher, Director, UN-HABITAT, New York Office.

We acknowledge with gratitude the important work done by Mr. Nels Erickson and Ms. Ipek Kilic. Their commitment throughout the preparation of the Forum was exemplary. Our thanks also go to Mr. Sergei Kambalov, Ms. Leslie Wade, Mr. Ajit Yogasundram and Ms. Cheryl Stafford for their expertise and advice. In addition, we would like to express our thanks to colleagues at the Secretariat of the Global Alliance for Information and Communication Technologies and Development - Ms. Maria Carreno, Mr. Robert De Jesus, Mr. Serge Kapto, Ms. Enrica Murmura and Ms. Rosalinda Sanchez for their hard work in ensuring that the planning and preparations

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Aliye Pekin Celik, Roxana Zyman and
Rafat Mahdi
April 2009

ABOUT THE BOOK

Sarbuland Khan
Executive Coordinator of the Global Alliance for ICT and Development, Department of Economic and Social Affairs, United Nations

In support of the High-level Segment of Economic and Social Council on Sustainable Development, taking place in July 2008, the Global Alliance for ICT and Development of the United Nations Department of Economic Social Affairs (UNDESA-GAID) organized a major event, "The Forum on Sustainable Urbanization in the Information Age" on 23-24 April 2008 at the United Nations Headquarters, in the Economic and Social Council Chamber in cooperation with the UN-HABITAT, the American Institute of Architects (AIA) - New York Chapter and the Regional Plan Association.

The meeting achieved its objectives and reached its goals with the participation of major stakeholders from all over the world. These objectives included:

I. bringing together mayors and representatives of global cities, who show leadership in sustainable urban planning, to talk about their challenges for sustainable growth and renewal by 2030;

II. producing practical solutions, sharing best practices in achieving sustainable design in urban areas in the world and discussing deliverables for planning for smart growth;

III. sharing knowledge to bridge the digital divide in the area of sustainable urban design and planning, as well as innovative ICT models for sustainable urban planning;

IV. elucidating political means by which sustainable development is possible.

The event generated interest among delegations, non-governmental organizations and other professionals, demonstrated clearly through the presence of 500 participants at every session - international and local stakeholders responsible for policy making and city planning, including representatives of Member States, local authorities, policy makers, developers, architects, engineers, planners, designers, ICT experts, members of civil

society, media and the private sector. The speakers included some thirty-five mayors and urban planners, ambassadors, high-level officials, academics and experts. The Plenary Session included a keynote address by Dr. Anna Kajumulo Tibaijuka, United Nations Under-Secretary-General, Executive Director, United Nations Human Settlements Programme and welcome remarks and addresses by several high-level speakers: H.E. Mr. Léo Mérorès, President of Economic and Social Council , Permanent Representative of Haiti to the United Nations, New York, Mr. Michael Adlerstein, United Nations Assistant Secretary-General, Executive Director of the Capital Master Plan, and Mr. James McCullar, President, American Institute of Architects (New York Chapter).

During the series of dialogues and panel sessions of the first day, the participants analyzed 12 cities:

1) New York, NY, USA - presented by Mr. Rohit Aggarwala, Director of Long-term Planning and Sustainability, New York City Mayor's Office of Operations for PLANYC 2030;

2) Newark, New Jersey, USA - Mr. Stefan Pryor, Deputy Mayor of Newark, New Jersey;

3) Kartal, Istanbul, Turkey - Mr. Arif Daglar, Mayor of Kartal, Istanbul;

4) Izmir, Turkey - Mr. Ali Riza Gülerman, Deputy Secretary-General, Izmir Municipality;

5) Barcelona, Spain - Mr. Ramon Garcia Bragado, Deputy Mayor for Urban Planning and Housing, Barcelona City Council;

6) Bilbao, Spain - Mr. Pablo Otaola, General Director of Bilbao´s Reconstruction;

7) Singapore City, Singapore - Mrs. Cheong Koon Hean, Chief Executive Officer, Urban Redevelopment Authority, Singapore;

8) Porto Alegre, Brazil - Mr. José Fogaça, Mayor of Porto Alegre;

9) Bogota, Colombia - Mr. Samuel Moreno Rojas, Mayor of Bogota;

10) Dakar City, Senegal - Mr. Moussa Sy, Deputy Mayor, Dakar City;

11) Dar es Salaam, Tanzania - Mr. Adam Kimbisa, Mayor of Dar-es Salaam;

12) Tunis, Tunisia - Mr. Rafik Aouali, Director of Town Planning, Municipality of Tunis.

The speakers considered the various technological and political approaches to foster sustainable development in urban planning. The participants discussed specific ways of sustainable urbanization in the information age. They addressed the global challenges posed by rapid urbanization and its impact on global warming and the natural environment - from poverty and inequality to natural and manmade disasters - as well as the role that ICTs can play. They called for better sustainable planning for urban growth based on the experiences of the twelve cities. They discussed the contributions of private sector and civil society to sustainable urbanization, including major real estate developers such as the Jonathan Rose Companies and the Durst Organization from New York City.

The first day of the Forum also included a reception and a lunch sponsored by the Municipality of Kartal, Turkey. The second day events included three tours to sustainable buildings in New York, organized by AIA and Jonathan Rose Companies: Bank of America Tower, New York Times Tower and David Dinkins Gardens. A working luncheon was hosted by the AIA at the Centre for Architecture, where prominent members of AIA, including past and future presidents, discussed international challenges in the area of sustainable urbanization and showcased their best practices.

The Forum was successful in achieving its initially defined objectives. It presented a valuable opportunity to the participants to exchange their experiences of identifying best practices in sustainable urbanization with ICT as a strategic instrument. The Forum was able to:

- increase involvement in Millennium Declaration values and respect for nature and the Millennium Development Goal 7;

- encourage dialogue among representatives of different countries and professionals with expertise in policy-making, architecture, urban planning, engineering and transportation;

- create awareness on the role of ICT in the area of sustainable architecture and urban planning in a globalizing world and establish new relationships between those involved in ICT, sustainable architecture, urban planning and design.

The communications surrounding the event included a blog on the UNDESA-GAID website, which disseminated information on the meeting. The feedback from the participants indicated strong support for such an initiative by UNDESA-GAID reflecting general satisfaction with the meeting as being both informative and action-oriented.

This book attempts to capture the thrust of statements and discussions at the Forum.

EXECUTIVE SUMMARY

This book summarizes the presentations and discussions held during the "Forum on Sustainable Urbanization in the Information Age" which took place in May 2008 in New York City. The Forum condensed the views of various sectors, disciplines and municipalities from both developed and developing countries on how we might best engage the challenges and opportunities of sustainable urbanization, including economic, social, ethical and technical goals.

The following pages summarize the main issues presented during the Forum through five chapters: 1) Introduction; 2) Challenges and solutions on sustainable urbanization in the information age in developed countries; 3) Challenges and solutions on sustainable urbanization in the information age in developing countries; 4) The contribution of the private sector and civil society and 5) Sustainability in the United Nations.

The introduction (Chapter I) deals with Sustainable Urbanization in the information age. Mr. Urs Gauchat , Dean of School of Architecture at NJIT, talks about the unprecedented external pressures such as finite resources, water and food shortages, civil unrest, increasing energy costs, economic uncertainty and problems of sustainability and the role of politics and decision making in coping with urban challenges.

Ms. Anna Tibaijuka, Executive Director of UN-HABITAT, explains the goal of that institution as ensuring an effective contribution to sustainable urbanization, which should make cities and towns livable and productive, capturing a vision of "inclusive growth", while strengthening the capacity of local authorities worldwide. She also made the important contention that UNHABITAT's initiatives demonstrate the bankability of pro-poor urban policies and how we can bring pilot initiatives to scale. Since 1996 UN-HABITAT in partnership with Dubai Municipality, has been giving awards for Best Practices in improving the living environment while creating a knowledge base of over 3000 best practices in sustainable urbanization covering 140 countries. UN-HABITAT works with UNDESA in documenting best practices in governance.

Mr. James Mc Cullar, President of the American Institute of Architects, NYC, highlighted the importance of creating a greener, more livable 21st century city that will remain competitive in an emerging global society. He also elaborated on the AIA's goals of thinking globally and acting locally under the motto "One City, One Globe".

Mr. Lance Jay Brown makes a reference to the essential ingredients of sustainable urbanization, made known by Jaime Lerner, former Mayor of Curitiba, Brazil: mobility, density, diversity, ecology, heritage, energy, reclamation, 24 Hour activity and social housing. Prof. Brown also emphasized the key role of mega-regions as a vehicle to connect the local and the global.

In Chapter II dealing with sustainable urbanization in developed countries, Mr. Cheang Koon Hean, CEO of Urban Redevelopment Authority, Singapore, explains how a good system of governance and long-term planning, together with a pragmatic and results-oriented approach can achieve economic growth.. Their main physical development principle is to have a compact city which encourages high density developments, while preserving green areas. Singapore is also paying a great attention to its waters to keep them "active, beautiful and clean".

Singapore emphasizes public transport while discouraging private vehicle usage as well as improving the quality of water and waste management systems, while using the Green Mark Scheme, similar to LEED system to conserve energy in building. Singapore uses extensive public consultation such as demonstrated by the "REACH" online forum, which allows the public to hold discussions on various topics related to the city. Singapore's "Land Data Hub" is a one-step information system for land data exchange which uses ICTs where public sector can have access to a standardized set of data. ICTs are used for public participation, real estate transactions and development applications.

Mr. Martin Ney explains how Germany encouraged a broad European discussion process on qualities and prospects of European cities which led to the "Leipzig Charter on Sustainable European Cities" assembling principles and strategies for a common urban development policy.

Mr. Ramon Garcia Bragado of Barcelona explains that recycling of existing land has been very important for Barcelona. They understand that the dense and compact city is more efficient as long as social services, open public spaces and public transportation exist in an integrated manner.

Mr. Pablo Otaola from Bilbao says that this industrialized city was hit by the economic crisis and floods and had to re-think changes through a strategic plan. Environmental regeneration with a new sewage system, cleaning the river, creation of a subway system, reorganizing existing railway lines were some of the improvements undertaken.

Mr. Stefan Pryor of Newark, New Jersey, explains how the strength of public transportation infrastructure led the city to development. The city is in partnership with energy service companies to make an energy audit and retrofit buildings at no cost guaranteeing energy savings. Also innovative partnerships with private sponsors are used to find resources for public parks.Tax break policies will provide investments in energy efficiency. The city's Economic Development Corporation expects to sponsor LEED training programmes. The city offers gift certificates for recycling and urban heat Island Reduction offers modest tax credits for painting roofs white to increase surface albedo.

Mr. Rick Bell of AIA touches upon the efforts in NYC to allow the construction of affordable housing, greening the city, and cleaning the water.

Mr. Rohit Aggarwalla explains the efforts of PlaNYC to improve living conditions in New York. He summarized the challenges of New York City as aging infrastructure and environmental risks associated with climate change. The PlaNYC adopted in 2007 brings together sustainability initiatives that focus on critical, interconnected issues of land use, transportation, air quality, energy, water and climate change. Affordable housing, access to city parks, increasing public transportation, cleaning of contaminated brown fields and opening of government owned land to productive use, were objectives of the plan.

Regarding water provision, the goals focus on quality and reliability. Best Management Practices Task Force identifies cost-effective strategies. Improving the performance of existing buildings is an important part of the strategy for energy efficiency together with use of renewable energy sources. The city and most universities in the city have a long term plan for achieving a 30 % reduction in city government energy consumption by 2017. For the private sector there are a series of legislative and regulatory changes that focuses on transparency around the energy efficiency performance of buildings; and overall greening of building codes. Air quality and transportation were improved by passing clean vehicle standards, using ultra low sulfur diesel improving traffic congestion.

Mr. Ernest Hutton explains the role of professional organizations, and grass roots efforts in planning New York City.

Ms. Elisabeth Gateau of UCLG mentioned the efforts of United Cities and Local Governments to develop software to enable mayors to calculate the implication of their planning decisions on carbon emission on ecological

footprint. She also emphasized the importance of the debate about selecting compact or spread out cities.

Chapter III dealing with Sustainable Urbanization in Developing Countries covers challenges and solutions in the information age with concrete examples presented by real practitioners.

Mr. Baki Ilkin highlights the adverse effects of mismanaged urbanization which takes a particularly heavy toll in developing countries because of the lack of resources and infrastructure inadequacies. He underlines the need for collective action to tackle major problems including those posed by environmental degradation. Mr. Ilkin recommends a combined and concerted effort on the part of international organizations, civil society and private sector to meet the challenge with the help of information and communication technology.

Mr. Arif Daglar, Mayor of Kartal, Turkey, covers the physical and human aspects of sustainability stressing the need for a wider participation in raising the quality of city life. Lending an organic existence to a city he mentions that every city has a spirit. The collaboration between the municipalities of Istanbul and Kartal will help the two cities handle their metropolitan issues especially those emanating from the influx of population from rural areas. New urban planning with the development of residential, commercial and cultural centres in Kartal will ease pressure on Istanbul creating Kartal as a major specialized center in the greater Istanbul region.

Mr. Jose Fogaca, Mayor of Porto Alegre while defining sustainable development mentions that current planning should not only respond to the demands of the present but also enable future generations to meet their needs. He underscores that goals of gender equality, ethnic affirmative policies, participation in the decision-making process and social capital building must receive due attention. The practical plans launched in Porto Alegre cover projects for upgrading mass transit, improvement in the quality of water and sewage disposal, strong community participation and transparency, ICT development including optical fiber, power line and wireless connections and setting up of internet sites and technical support centres.

Mr. Samuel Moreno Rojas, Mayor of Bogota, presenting the salient elements of the Master Plan of Bogota, mentioned that all factors required to achieve sustainable development had been given due consideration. Special attention had been paid to air quality improvement, integrated transportation system, water conservation mechanisms and domestic waste and recycling

programmes. Bogota also has a plan for upgrading its Information Systems which will benefit risk and disaster management, social and economic planning and integral management of the environment.

Mr. Adam Kimbisa, Mayor of Dar-es-Salaam, presents the measures adopted by the municipal authorities to fight the problems caused by unplanned human settlements, including environmental degradation, poverty and poor urban structures and services. The municipality has taken major steps to implement sustainable urban growth strategies which include upgrading basic infrastructure and improvement of urban transportation. The Mayor welcomes the participation of all stakeholders to improve the environment and quality of life.

Mr. Ali Riza Gulerman, Deputy Secretary-General of Izmir, recounts the improvements made in the city administrative structure through information and communication technology for the benefit of the general population. The technical, social, cultural and commercial infrastructures have been significantly upgraded. In the city planning, efforts have been made to encourage participation of all stakeholders giving them a sense of ownership. Similarly the Master Plan has in its overall objective improving the quality of life of its citizens by giving special attention to issues such as environment, health, transportation and education.

Mr. Moussa Sy, Deputy Mayor of Dakar, highlights the benefits drawn by Dakar on account of information and communication technology in order to achieve the MDG goals. Following the meeting of African ministers in Dakar 2004 a digital programme has been launched which has had a positive impact on the local population in all sectors covering education, health and information. Through a city website and municipal radio, an effective communication system has been developed which has allowed new experiments in all areas of sustainable development, including solar energy, health, traffic control and real estate development.

Mr. Rafiq Aouali, Director of Town Planning of the Municipality of Tunis talks of the sharp rise in urbanization caused by heavy influx of population from rural areas. This has resulted in the degradation of urban neighborhoods because of the increased pressure on urban infrastructure. He stresses the need for a comprehensive plan for Tunis to improve the quality of life through redeveloping the area, connecting the city, lakes and coast, relocating people, reconstructing the buildings through the active participation of the state, municipality and private sector.

Ms. Mona Serageldin, Vice-President of the Institute for International Urban Development recalling the developments made in Bogota, Kartal, Porto Alegre, Barcelona, Newark and Dakar recognizes the improvements made in many sectors through strategic planning, effective use of ICT, coherent public policy, performance accountability and solidarity in governance. Talking of Mexico, Ms. Serageldin emphasizes the need for space which could greatly help any planning effort by allowing bigger homes and providing opportunities for social activities including sports. Hence the need for recuperating spaces particularly in marginal areas where they are needed the most.

In Chapter IV, Mr. Thomas Wright talking about private sector and NGO contribution, explains the role of the Regional Plan Association - a private, non-profit planning organization, which prepares long-range plans for the tri-state metropolitan region around New York City. He notes the importance of communication networks in providing transparency and efficiency in order to find more sustainable modes of living and working. Technology improves both the process of planning – creating new means of connecting communities and societies – and the outcomes.

In "Challenges of Urbanization", Mr. Habib Mansour asserts that urbanization - a dominant phenomenon as the world's population continues to increase exponentially - is beneficial to the environment because it releases pressure from the natural environment and is thus good for conserving biodiversity. However, he warns that the pace at which urbanization is proceeding presents a challenge for the sustainability of human settlements: cities use water, energy and produce waste; they can become potential flash points for economic, political and social crisis.

In "ICTs and Sustainable Urbanization - Enabling the Role of Civil Society", Ms. Diane Diacon talks from the perspective of her experience with the Building and Social Housing Foundation, which has worked to identify innovation in sustainable housing worldwide. This experience has shown that it is essential to address issues of equity as well as environment and economy, if urban areas are to be truly sustainable. She underlines that it is important not to overstate what can be achieved with the use of ICTs, especially since eighty per cent of the world's population has never made a telephone call. The focus of her paper is how ICTs can be used to improve the quality of life in urban areas and enable civil society, including the poorest citizens, to take a greater role in their city. Two key areas in which this can be done is by facilitating community empowerment and by improving urban governance.

In “The Private Sector and Leading the Way to Sustainability”, Mr. Jonathan Durst explains that the Durst Organization focuses on environmental responsibility and offers some examples of projects that reflect this policy. He also illustrates how Information Technology can be a way to manage resources more efficiently and effectively.

In “Morally Correct Private Sector Approach”, Mr. Jonathan Rose stresses that for our cities to be green and equitable, our urbanization must be designed around: smart infrastructure investments; green jobs; equity accumulation; education for all sectors of society, and “all must mean all sectors of society”; a commitment to protection and restoration of biodiversity both within cities and outside their boundaries. He contends that Mayors are the most likely leaders of this change.

In “Responsibilities of Information and Communication Technologies and Sustainability”, Mr. Dick Sullivan talks about his experience with EMC - an IT Company. He notes that ICTs are very powerful factors in promoting economic and political change around the world, they are major enablers of advancements that already bridged the gap between developed and developing world. He further underscores that creating environmental sustainability is a massive undertaking. It will demand global collaboration and co-operation among the largest and most influential stakeholders as well as individuals. ICTs play an important role in supporting cities and global communities to change policies and outcomes and to achieve sustainable goals.

In “The Non-Governmental Organizations’ Impact on Sustainability”, Mr. Suha Özkan reminds us that we have to be more proactive towards the future conservation of resources. He comments that people do not participate in civil society activities for profit or any other perk. They take part and volunteer in NGO activities because they believe in the mission and they are committed to a cause. Mr. Özkan concludes that we will have a better world to live in due to values of the environment, the green, recycling of resources, equity, energy conservation, bio-diversity, democratization, access to resources, natural and renewable energy sources, and their dissemination with the use of ICTs.

In Chapter V, Ms. Aliye P. Celik highlights the fact that one of the biggest achievements of the United Nations is in the area of sustainability, giving a synopsis of the related World Conferences in this area between 1972 and 2009, while elaborating on the role that the United Nations played in sustainability.

In “Sustainability in the United Nations Department of Economic and Social Affairs”, Mr. Nikhil Seth underscores that all of the divisions within United Nations Department of Economic and Social Affairs (DESA) are integrating the concept of sustainable development – which takes into consideration economic, social and environmental factors – within their work. He talks particularly about the activity of the Division for Sustainable Development, the Secretariat of the United Nations Forum on Forests and the Office for Economic and Social Council Support and Coordination. UNDESA cooperates closely with many partners, including the United Nations funds and programmes dealing with sustainability, such as UN-HABITAT and the United Nations Environment Programme (UNEP). Mr. Seth also presents the role of UNDESA in providing support for the Chief Executives Board, which periodically brings together the executive heads of the organizations of the United Nations system, under the chairmanship of the Secretary-General of the United Nations. It aims to broaden inter-agency collaborative arrangements on the implementation of water-related MDGs and Johannesburg targets, as well as on energy-related issues.

In “Sustainability in the United Nations Headquarters”, Mr. Michael Adlerstein talks about the United Nations historic renovation project – the Capital Master Plan –a five-year programme to renovate the Headquarters in order to make it a safer, healthier and more energy-efficient environment for delegates, staff and visitors. He notes that despite the fact that the United Nations Headquarters was a state-of-the-art building in 1948, it has recently begun to show signs of its age. One of the goals of the renovation project is to correct these, particularly its most significant task, related to its energy inefficiency. He mentions problems related to security and incorporating sustainability. The recycling of the steel and concrete of the United Nations Secretariat, rising 40 stories high and going 80 feet deep where the steel piles sit on bedrock, represent the major energy investment of the complex. Mr. Adlerstein concludes that by renovating the United Nations complex the project will save millions of tons of carbon from being released into the atmosphere.

In “UN-HABITAT and Sustainable Urbanization in the Information Age”, Ms. Axumite Gebre-Egziabher asserts that sustainable urbanization is a multi-dimensional dynamic process that includes not only environmental but also social, economic and political-institutional sustainability. The economic and social dimensions such as poverty and deprivation, governance, gender inequality and social exclusion are central challenges to sustainable urbanization at all levels. To address them, communities, civil society and local government will have to work together. In addition, Ms. Gebre-Egziabher also emphasizes fiscal and political decentralization in order to

enable local authorities to fulfill their full roles and responsibilities in spatial planning and management, pro-poor housing and urban development, and the provision of basic infrastructure and services. Regional and global cooperation should focus on: identifying areas where regional efforts need to be intensified for building sustainable cities; mobilizing regional and global partnerships that can help promote sustainable urbanization; mobilizing resources and technological know-how, which is key to sustainable development.

In the "Conclusion", Ms. Aliye P. Celik notes that sustainability as an agenda item in development has become even more prominent with rapid globalization and the acute global financial crisis. This book puts together the views of some players who shared their practical experiences at the Forum on Sustainable Urbanization in the Information Age: mayors, city officials and other experts who had utilized the strength of communication technologies to resolve problems relating to sustainability of the urbanization process depending on their respective environment and financial and political parameters. As one can see, there are many solutions to different problems and different solutions to the same problem. One road to success seems to be the decentralization of power to local authorities who have the political will to use the latest available technologies to achieve urban sustainability. Cities that work together with the stakeholders and strive for solutions are able to succeed in establishing harmonious livable sustainable cities.

In the "Afterword", Mr. Sarbuland Khan highlights that the Forum on Sustainable Urbanization in the Information Age revived the spirit of cooperation and sent a strong message on the role of the United Nations in both sustainable urbanization and the use of information and communication technologies in its achievement. This meeting considered ICT as a strategic instrument for meeting the challenges and opportunities we face in this information age, not as an end in themselves, but rather as means – as tools to reach the Millennium Development Goals (MDGs). The Forum was also special because its theme appealed to a large number of local authorities, civil society and private sector representatives. There was, therefore, a large base of partners and contributors. The theme reflected sentiments deeply rooted in today's urbanizing world and stressed the importance of an understanding of the progress and strides that the global community has accomplished as well as the continuous financial problems and inequality that are still present and that must be overcome. Mr. Khan concludes by expressing the expectation that further partnerships will develop to achieve the MDGs and preserve the basic values of the Millennium Declaration in our urbanizing world.

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ACRONYMS

Acronyms

ABC	Active, Beautiful and Clean Waters Programme
ACSA	Applied Computer Security Associates
AIA	American Institute of Architects
AMR	Annual Ministerial Review
BAM	Brooklyn Academy of Music
BMP	Best Management Practices
BREEAM	Building Research Establishment's Environmental Assessment Method
BSHF	Building and Social Housing Foundation
CAD	Computer Aided Design
CBD	Central Business District
CEB	Chief Executives Board
CEMR	Council of European Municipalities and Regions
CEO	Chief Executive Officer
CIS	Commonwealth of Independent States
CNN	Cable News Network
CSD	Council's Commission for Sustainable Development
DPU	Department of Public Utilities
EAAB	Estate Agency Affairs Board of South Africa
EBWA	European Bottled Water Association
ECOSOC	Economic and Social Council
EDA	Electronic Development Application
EMC	Storage Product Marketing Enterprise Solutions

ESCOs	Energy Service Companies
EU	European Union
FAIA	Fellow American Institute of Architects
GAID	Global Alliance for Information and Communication Technologies and Development
GIS	Geographical Information System
GPIA	Graduate Programme in International Affairs
HABITAT II	United Nations Conference on Human Settlements
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HVAC	Heating Ventilation Air conditioning
ICTs	Information and Communication Technologies
IT	Information Technology
KALDER	Turkish Quality Association
LEED	Leadership in Energy and Environmental Design
MDGs	Millennium Development Goals
METU	Middle East Technical University
MTA	Metropolitan Transportation Authority
NGOs	Non Governmental Organizations
NJ	New Jersey
NJIT	New Jersey Institute of Technology
NRDC	Natural Resources Defense Council
NY	New York
NYC	New York City
OECD	Organization for Economic Co-operation and Development
PhD	Doctorate
PlaNYC	Plan for New York City
REALIS	Real Estate Information System
RPA	Regional Plan Association

RS	Rio Grande do Sul
R/UDAT	Regional/Urban Design Assistance Team
SIG	Geographic Information System
UCLG	United Cities and Local Governments
UEZ	Urban Enterprise Zones
UNCTAD	United Nations Conference on Trade and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCWA	United Nations Economic and Social Commission for Western Asia
UNFPA	United Nations Population Fund
UN-HABITAT	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
UPF	Universitat Pompeu Fabra
URA	Urban Redevelopment Authority of Pittsburgh
USA	United States of America
USGBC	United States Green Building Council
WAC	World Architecture Community
WHO	World Health Organization
WTC	World Trade Center

CHAPTER 1

INTRODUCTION

OVERVIEW

Urs Gauchat
Dean, School of Architecture, New Jersey Institute of Technology

I want to introduce this book by paraphrasing Sibyll Moholy – Nagy who, in her seminal book "Matrix of Man", made the observation that cities behave much like living organisms. They both need to replace themselves cell by cell in order to stay alive. Without this constant renewal, cities behave just like living organisms; they atrophy and ultimately die.

Uncontrolled growth in an organism usually means cancer. Similarly, uncontrolled growth in cities can be like a cancer and cause severe and sometimes irreparable damage. Cities, like living organisms, are dependent on circumstances, location, climate, politics and an ideological context. Each city is therefore unique and has its own distinct personality.

Around the world many cities point with pride at their rate of growth. Growth is generally taken as a sign of health and vigor. However, without careful planning and a view to sustainability the rampant growth of cities can turn into a serious threat to the quality of life to those that live there.

Since the beginning of civilization, there has never been a time when so many cities experienced such an unprecedented rate of growth. In addition, particularly in China, large cities are emerging from scratch. Imagine the daunting task of building a city for over one million people in just a few years. Consider the fact that in the developed world more than 75% of the population already lives in cities but in the developing world a mere 25% of people now live in cities. But this is about to change rapidly. In the developing world the rate of urbanization is galloping along at an alarming rate. To me, rapid urbanization can mean only one of two things: either a threat to the present way of life or a unique opportunity to improve the lot of the least privileged in our society.

Cities, I believe, are the noblest of all human inventions. The city is the purest manifestation of common dreams and the determination to carry it out. They are complex organisms: they enhance life; they provide the seeds of culture; they create employment; they promote health; they foster higher education;

they offer recreation and, above all, they provide choices. Despite their high densities cities are highly livable. They are a splendid display of ingenuity, collaboration and cooperation. They harness individual freedoms in the service of the common good. Therefore, I believe that cities are among the greatest of all human achievements.

Another fascinating aspect is that cities evolve over time. They represent repositories of multiple dreams of many generations. They are not fixed. They are in a constant state of evolution and transformation. Each generation leaves its imprint. Cities are like pamplisets. Think of them as a stack of tracing paper in which each new layer takes and adapts the traces of a previous layer. Thus, each layer transforms and modifies whatever existed before. This process can take just a few decades, or take shape over hundreds or even thousands of years.

Today's cities also have to respond to unprecedented external pressures. These pressures can be dramatic. They include: finite resources, water shortages, food shortages, civil unrest, rising energy costs, problems of sustainability and economic uncertainty. In a period of an uncertain future and mounting local and global problems, prudent planning with a view to sustainability becomes of paramount importance.

Another particularly fascinating facet of cities is that neither their birth nor their evolution can happen without the consent and participation of the citizenry. The role of politics is of critical importance. However it raises questions such as: who makes what decisions and for whom? How participatory is the decision-making process? Who defines the dividing line between individual freedom and the common good?

In the presentations, in this and the following sessions, we will learn about cities that are quite different to New York our host city. We have asked each of the presenters today to address three perspectives: the reasons for a city to exist; the planning process to effect controlled growth and sustainability, and finally the political process that led to implementation.

United Nations Human Settlements Programme's Role in Sustainable Urbanization in the Information Age

Anna Kajumulo Tibaijuka
United Nations Under-Secretary-General and Executive Director, United Nations Human Settlements Programme (UN-HABITAT)

There are three mega-trends that are marking our modern society. The first two are omni-present. They visibly shape our societies and our daily lives. And, they are closely related. These two trends are globalization and information and communication technology. The latter is often referred to as one of the main driving forces of the new economy.

The third mega-trend is less talked about and certainly less present in the media. It has, nonetheless, an equally profound impact on the way we live. This third trend is "urbanization" and the growth of cities.

It is the combined impact of rapid urbanization and globalization that is increasingly shaping the development agenda.

On the one hand, cities present unparalleled opportunities for creating wealth and prosperity. Cities have become the driving force of global trade and the engines of economic growth. They serve as the nexus of our global financial markets, and the service centers of our information society.

On the other hand, cities also bring irreversible changes in consumption and production patterns. As human activity concentrates in cities, we change the way we use land, water, energy and other natural resources. With just half of the world's people living in cities, urban areas are already consuming 75% of world's energy and are generating the bulk of our waste, including green house gas emissions. They are also harbouring some very worrisome trends in terms of social deprivation and exclusion.

The Quest for Sustainable Urbanization

Our quest for more sustainable social and economic development and environmental protection must be rooted in sustainable urbanization.

The concept of sustainable urbanization is not just a theoretical construct. It is based on the realisation that we must find a common ground between our efforts to protect and preserve our environment with our efforts to promote human development. It represents a pragmatic approach to pursuing growth with due regard for the ecology, and wealth creation with social equity.

This common ground is to be found in the way we apply the tremendous potential offered to us by the knowledge tools of the information age to the way we manage our cities and communities.

Sustainable urbanization is not an end in itself. We are living in a world where one billion slum dwellers are living in life-threatening conditions. And 95 percent of all urban growth is occurring in developing countries. In this context, the battle to achieve sustainable development and meaningful globalisation will be won or lost in cities.

The Role of UN-HABITAT in Sustainable Urban Development

UN-HABITAT is one of the few international institutions that provide an overall perspective on urbanization. It is also the only United Nations agency with housing and urban development as its principal mandate.

The overarching goal of UN-HABITAT is to ensure an effective contribution to sustainable urbanization. The goal of sustainable urbanization is to make cities and town livable and productive. It embraces relationships between all human settlements from small towns to metropolises, between urban centers and their surrounding rural areas. As a process, it captures a vision of 'inclusive growth' that is people centric and embraces social harmony, economic vitality, and environmental sustainability.

UN-HABITAT, as part of the broader United Nations system, upholds a human rights perspective and a commitment to mainstream gender and youth issues to all its activities.

But most importantly, UN-HABITAT recognizes that local authorities play a crucial role in achieving national development and poverty reduction targets, including the Millennium Development Goals.

We are therefore committed to strengthening the capacity of local authorities to fulfil their role in this regard. Given the number of local authorities worldwide, UN-HABITAT focuses its efforts on ensuring the highest possible multiplier effects by supporting the efforts of global, regional and national associations of local authorities, other United Nations agencies, and training and capacity building institutions.

Harnessing the Power of Information in Support of Sustainable Urbanization

A key challenge and opportunity is to harness the power of information age for development. UN-HABITAT has, since the World Summit on Information Society, adopted an integrated approach to make use of information and information technology in support of sustainable urbanization.

The Urbanization of Poverty

The first dimension of this approach is to monitor urbanization trends and issues globally. However, UN-HABITAT cannot undertake such a massive task by itself. For this reason, it has involved over 100 cities and 30 countries in setting up a system of national and local urban observatories. Data is collected locally and analyzed globally. Key trends and emerging issues are highlighted in our flagship publications. But more importantly they form the basis of our policy work which involves support to national and local policy making and reform.

This work led UN-HABITAT to highlight the true extent of urban poverty and deprivation. Our 2006-2007 State of the World Cities report revealed what we have suspected for a long time – that slum dwellers are more likely to die early, suffer from malnutrition and disease, be less educated and have fewer employment opportunities than any other segment of the population.

On the health front, studies have shown that prevalence of the five diseases responsible for more than half of child mortality, namely pneumonia, diarrhea, malaria, measles and HIV/AIDS, is directly linked to the living conditions found in slums and not to poverty or level of income. These conditions are overcrowded living space, poor security, lack of access to potable water and sanitation, lack of garbage removal, and contaminated food.

The recent food crisis is making front page news for quite some time now, with the World Bank warning of more food riots and the risk that 100 million people will sink into poverty owing to rising food prices. What we also need

to know is that the most vulnerable group is made up of the urban poor and slum dwellers. These are people who are already living on less than $2 a day and who have no alternative but to buy their food.

These other findings on the urbanization of poverty are beginning to change national and international perceptions of development priorities. They have led our sister agencies including UNICEF, UNFPA and WHO to focus their research on the urban dimensions of hunger, malnutrition, infant mortality, disease and health. They have also led to the growing awareness that a critical battlefront for attaining the Millennium Development Goals will be in the world's rapidly growing cities.

Operational Tools and Methodologies

The second dimension of our integrated approach to harnessing the power of information is the development and dissemination of operational tools and pre-investment methodologies. The tools are designed to help national and local institutions in implementing pro-poor urban policies and urbanization strategies. Our key areas of focus are in land and housing; infrastructure and services; urban planning and management; and housing and urban finance.

Our work in these areas is increasingly geared towards investment programming. We endeavor to develop tools and methodologies that enable governments and local authorities to identify and prepare bankable projects. Our role is to help build capacities and to establish partnership arrangements with the World Bank, the African, Asian and Inter-American development banks, and more recently, with domestic financial institutions and the private sector.

Water and sanitation, slum upgrading and land management are a few areas where we have been able to package technical assistance and policy reform with follow-up capital investment. These initiatives demonstrate the bankability of pro-poor urban policies and show how we can bring pilot initiatives to scale.

Knowledge Management

The third dimension in our integrated approach to harnessing the power of information is in the area of knowledge management.

Member States, in adopting the HABITAT Agenda in Istanbul in 1996, clearly identified local authorities and their civil society partners as front line actors in the quest for sustainable urbanization. In their wisdom, they called

upon stakeholders at all levels to identify and document best practices in improving the living environment.

Since 1996, UN-HABITAT, in partnership with Dubai Municipality, has been recognising excellence in improving the living environment. Every two years, twelve outstanding initiatives are discerned with the prestigious Dubai International Award fro Best Practices in Improving the Living Environment. But these 12 award-winning practices are but the tip of the iceberg. Every two years we receive on average 600 to 700 documented practices. Most of these initiatives have made, and are still making, positive and lasting improvements to people's livelihoods and living environments. As a result, we now have documented over 3,000 best practices in sustainable urbanization covering 140 countries.

This unique knowledge base is number one in its category on the web. It is used daily as a reference centre of what works. It has inspired and continues to inspire dozens of institutions, local authorities and their associations, training institutions and professional associations to use lessons learned from best practices as a means of improving knowledge and of transferring expertise and experience.

Today, over 40 partner institutions are engaged in all forms of transfers and learning. UN-HABITAT, in line with its mandate and vision for sustainable urbanization, focuses on City-to-City transfers in recognition of the fact that cities are constantly searching for innovative and original solutions to common social, economic and environmental problems. Other agencies are actively involved in other aspects, and we are proud to be collaborating with UNDESA in documenting best practices in governance.

The City of Bogota is one such best practice. Using an idea originally implemented by the City of Curitiba, in Brazil, the City of Bogota has used bus rapid transit to improve mobility, provide affordable transport, and to build important links and bridges between different neighborhoods to combat social exclusion. Today, bus rapid transit is being adopted and adapted by urban agglomerations throughout the world to help make our communities socially move cohesive and environmentally more sustainable.

World Urban Forum

The power of information is the power of ideas and of knowledge. But transforming ideas into learning experiences and practice requires people with real world expertise and experience. For this reason the General Assembly mandated UN-HABITAT to organize every two years the World Urban Forum. The World Urban Forum is as a non-legislative meeting where

government officials, mayors, professionals, the private sector and civil society organizations can engage each other as equals, in learning from each other and in forming new networks.

Between the first meetings held in Nairobi in 2002, which saw some 2,000 participants from 60 countries, to the third meeting held in Vancouver Canada in 2006, which witnessed over 10,000 participants from over 100 countries, the World Urban Forum has become the world's most important nexus for dialogue and debate, exchange and learning on sustainable urbanization.

The fourth session of the World Urban Forum was held in Nanjing, China, 3 to 7 November 2008. The session was devoted to harmonious development of cities and brought together an unprecedented concentration of ideas, best practices and knowledge on the efforts launched by people and their communities, governments and local authorities and the private sector to make our cities and communities more sustainable.

Respect for Sustainability – An Architect's Point of View

James McCullar
President, American Institute of Architects - New York Chapter

The United Nations building is a 20th Century masterpiece that resulted from the collaboration of distinguished international architects. It is proof of the benefits of a global collaboration, which we are embarking on today. We look forward to its sustainable restoration and a continued life into the 21st Century.

AIA New York with over 4,000 members and 83,000 affiliated members nationally, is extremely pleased to partner with the United Nations Department of Economic and Social Affairs – Global Alliance for ICT and Development (GAID), the UN-HABITAT, the Regional Plan Association and many others in support of a sustainable global future.

Our 2008 AIA New York theme -- Architecture: Designs for Living – has been envisioned to reflect the broadest range of building and urban design that make up our communities and cities. The theme is also envisioned as our response to Mayor Bloomberg's initiatives for PlaNYC2030, which anticipates the addition of one million new residents and requires new sustainable typologies from infrastructure to housing. The goal is to create a greener, more livable 21st century city that will remain competitive in an emerging global society. The AIA is committed to a leadership role in this effort.

We recognize that we increasingly belong to an emerging global community – from our own neighborhoods to the expanding urban centers around the world. The AIA supports building relationships and partnering with others in support of a sustainable future. Our goals are to think globally, but act locally. We are truly "One City, One Globe".

While New York City is expected to add one million residents by 2030, and the northeast region stretching from Boston to Washington, DC is expected to add 18 million by 2050, nearly 60 million people are added annually to

urban centers in developing countries. For example, the world's newest largest city of 31 million – Chongquing, Municipality of China – is growing by an astonishing one million new residents annually. Half of India is off the electric grid and the half on it is overextended, but with modernization supported by a growing economy, its energy demands will grow exponentially. Former Prime Minister Tony Blair has remarked that if the UK were to obtain carbon neutrality, China alone would make up the difference in three years of normal growth. The demands being made on the world environment, food, water, energy and raw material resources are staggering and are already affecting the ways we live. This is a formidable challenge to each and all of us who care about the future.

This Forum is a continuation of our commitment to "Global Dialogues". This year our Berlin-New York Dialogues Exhibition travelled to Berlin, and we mounted two exhibitions on China:

- Building China – Five Projects, Five Stories, on work by emerging Chinese architects;

- Co-Evolution, a Danish-Chinese Collaboration on Sustainable Development in China that travelled from the Venice Biennale.

Our Public Lecture Series on new directions in design typologies focuses on the "building blocks" that will accommodate the addition of one million new residents to New York City and the revitalization of older districts envisioned by PlaNYC. Much like this forum, the goal is to foster communication between architects, policy makers and the public in planning for a sustainable city.

CHAPTER 2

CHALLENGES AND SOLUTIONS RELATED TO SUSTAINABLE URBANIZATION IN THE INFORMATION AGE IN THE DEVELOPED COUNTRIES

OVERVIEW

Lance Jay Brown, FAIA, ACSA,
Distinguished Professor, City College of New York School of Architecture, Urban Design and Landscape Architecture

Wearing my professorial hat, I want to say that helping convene this Forum has been an exercise in optimism. For me it is a continuation of an ongoing and critical dialogue between design professionals, civic leaders, developers, and foundations from around the world, in developed and developing countries alike. The desire to exchange information openly is positive in and of itself: that we will open new networks for communication that may help solve common problems is especially positive.

It should be obvious now to all that we are at a crossroad in the history of global urbanization. The previous studies have given us insights into the issues we are confronting, including challenges to both developed and developing countries. We have eclipsed the population of the pre-industrial and industrial ages and face issues of available and equitable energy resources, water resources, and technological resources. We illuminated the dichotomies we face today; the digital divide, environmental degradation, information transfer, bio-diversity and social equity. In this book we are going to read about urbanization in blurbs from a number of professionals representing various sectors, disciplines and municipalities in a rapid enough sequence to be able to comprehend and digest areas of overlap or convergence and areas that are individual but nonetheless capable of transference. The goal of these presentations is to share, by direct experience and proposals, how we might best engage the challenges and opportunities of sustainable urbanization, a social, ethical, and technical goal, and we took a big step in that direction.

I want to reiterate and add to a number of essential ingredients of sustainable urbanization made known so well by Jaime Lerner, former mayor of Curitiba and governor of Parana/Brazil, and critical to achieving our goals: mobility, density, diversity, ecology, heritage, energy, reclamation, 24/7 activity, and social housing. However, on our ever shrinking planet these matters must not only be addressed at the local level but also at the regional, mega-regional, and cross-border context. It is my hope that our next effort will look at these

scales and the interventions necessary to foster holistic sustainability. The role of the mega-region seems to be the vehicle that will connect the local to the global.

Sustainable Urbanization in the Information Age in Singapore

H. E. Cheong Koon Hean
Chief Executive Officer, Urban Redevelopment Authority, Singapore

As populations of cities across the world grow at an exponential rate, pressure on their existing infrastructure and resources increases too. Proper strategies and policies are therefore essential to ensure sustainable urban development. For a small island city-state like Singapore, developing in a sustainable manner has always been of paramount importance. We have a total land area of 700 square kilometres, which has to accommodate a variety of land-uses like housing, commerce, industry, defense, waste disposal and others. Having to accommodate Singapore's needs and cater for a growing cosmopolitan population means that we need sensible and creative ways to maximize our limited resources.

Singapore's accomplishments over the years bear testament to our success in sustainable urban development. Over the last 5 decades, its real GDP grew from US$702 million (US$427 per capita) in 1960 to US$161.3 billion (US$35,163 per capita) in 2007, while its population grew from 1.6 million to 4.6 million. Despite this growth, Singapore has managed to house all its residents in a good quality living environment. Some 90% of Singapore's population now own their own homes.

Singapore's approach towards sustainable development is based upon three fundamentals: first, we have a good system of governance and long-term, comprehensive planning. Second, we take a pragmatic and result-oriented approach in seeking environmentally sustainable outcomes. This means we experiment and make investment decisions bearing in mind changes in technology and ensuring cost-effectiveness. Third, we try to achieve economic growth, good quality of living, and a good environment in a balanced and pragmatic way.

Singapore's national land-use planning authority, the Urban Redevelopment Authority (URA), draws up the Concept Plan, which is Singapore's strategic land use and transportation plan that maps out the vision for the nation in the

next 40-50 years. When drawing up this comprehensive plan, all agencies involved in economic, social, environmental and infrastructural development come together to resolve competing needs and trade-offs. This integrated approach ensures that future development balances economic growth with environmental stewardship and social progress.

The Concept Plan safeguards land for key growth sectors to ensure we have enough land to meet all our development needs even in the long term. For example, Marina Bay was planned as a new extension to our existing city, to cater to financial, business and tourism sectors. Land is also set aside for high value, high-growth industries such as those in pharmaceuticals, petro-chemical and aeronautical sectors.

The Concept Plan is translated into the Master Plan: a detailed statutory land-use plan that guides Singapore's development over a 10-15 year time-frame. The Master Plan is made public and provides transparency and certainty for investment decisions.

Formulating both the Concept Plan and Master Plan involves extensive public consultation through public exhibitions, focus groups, and on-line consultations. We believe that an informed and involved public helps us to better address their needs and concerns.

When drawing up these plans, the URA adopts several strategies for sustainable development. One key strategy is to plan for a compact city, which both optimises our limited land and also makes for a more walkable urban environment. A compact city also makes the provision of an extensive rail network viable. To achieve this, priority is given to developing new projects in the already developed areas, rather than to opening up new land. We also encourage high-density developments, especially around major public transport nodes and transit stations, by zoning land for higher density there. Public housing estates, where more than 80% of our population resides, are high-density. At the same time, different housing densities and housing forms are still provided for greater variety and to cater to differing lifestyles.

At the same time, we soften the effects of high-density developments by making our living environment a good quality one. For example, a variety of facilities and amenities are provided within walking distance for residents of housing estates. Greenery also helps provide relief in an urbanised setting. We are looking to make Singapore into a 'City in a Garden', by introducing more parks and open spaces, as well as innovative ways to inject greenery and 'expand our space'. Park connectors are introduced to link town centres, sports complexes and homes to major parks and the coast around the island.

These are green corridors for cycling, jogging and the general enjoyment of nature. Today, Singapore has a total of 100 kilometers of park connectors, which we aim to extend to over 400 kilometers. Eventually, the whole island will be linked up in a round island loop.

Developers are also encouraged to incorporate sky-rise greenery into their developments through suitable incentive schemes. These greening measures can help reduce heat island effects, allowing for a better living environment and reducing the energy needed to cool buildings.

Besides the 'green' of our urban landscape, the 'blue' aspects of Singapore are also important. The Active, Beautiful and Clean (or ABC) Waters Programme will create more inland water reservoirs, and transform utilitarian drains and canals into beautiful streams and rivers. Some waterbodies will be converted into wetlands that can filter and clean stormwater entering our rivers. Many of our waterbodies will also be opened to the public for recreational activities.

Protecting our Nature Areas is another priority. Four Nature Reserves and 18 Nature Areas have been identified in our Master Plan. As a result, Singapore has managed to co-exist with an unusually rich biodiversity: the 9% of our land area devoted to green space and nature reserves is home to over 2,300 species of plants, 300 species of birds and a large variety of animals. These nature areas will be integrated with parks where feasible, which increases their accessibility to the public.

Beside protecting our natural heritage, Singapore also conserves our built heritage. To date, around 6,800 buildings and structures of significant historical and heritage value have been conserved, many as whole districts. These conserved elements add unique character and identity to our city, and are physical mementos of our country's history.

Beyond physical planning, a Leisure Plan has also been formulated to improve the quality of life by making available leisure opportunities for outdoor activities, as well as arts, cultural and lifestyle activities. As part of the Leisure Plan, enhancements to existing areas will be made to inject more 'buzz' into the city centre.

Singapore is a public-transport oriented city. The Land Transport Authority has formulated measures to make public transport more attractive and accessible, and also discourage private vehicle usage. For example, car use is managed through a vehicle quota system and congestion pricing measures. Today, motorists have to pay a charge when they drive past gantries set up

across selected roads during peak hours. This moderates vehicle usage on these roads.

At the same time, with heavy government investment, Singapore's rapid transit rail coverage will increase from 138 kilometers today to 278 kilometer s by 2020. Land usage is intensified around our rail stations to encourage more rail transit use. For example, employment-generating commercial centres are located around major public-transport interchanges. This allows for higher intensity developments without the usual traffic gridlock. Sheltered pedestrian networks, especially to our rail transit stations, are provided to make walking convenient and comfortable.

Singapore also has excellent water and waste management systems in place. As part of Singapore's water management policy, we adopt a "Four National Taps" strategy, to ensure a sustainable water supply. These 'four taps' are water from local catchments, imported water, used water that has undergone stringent purification and treatment, and desalinated water. For waste management, Singapore has a zero-landfill policy. Already, more than 90% of construction and demolition waste in Singapore is recycled and we are constantly study the use of new technology that can improve our rate of recycling. Waste that cannot be recovered, reused or recycled is incinerated and the resultant ash, together with the non-incinerable waste is disposed of at the Semakau Landfill. When developing the landfill, care was also taken to protect the existing mangrove swamps and corals, and the Semakau Landfill is a population destination for nature lovers today.

Singapore also encourages environmentally friendly buildings. The Green Mark Scheme is a green building rating system, similar to LEED and BREAM, to evaluate buildings for their environmental impact and performance. In April 2008, the government mandated Green Mark requirements for new and existing buildings undergoing major retrofitting works. We are also exploring incorporation of eco-friendly features such as centralised recyclable refuse chutes, rainwater collection systems and solar-powered lighting in our public housing projects.

Globally, there is much concern on climate change and environmental sustainability. To address this, Singapore has formed various inter-ministry groups and is investing in research on issues such as the impact of climate change, energy efficiency, clean energy and the other new technologies.

One important tool we leverage on to achieve greater sustainable development is Information and Communication Technology. The use of ICT supports our long-term, integrated planning approach, allows for greater

efficiency in delivering government services, and helps us better engage the public. For example, the Singapore "Land Data Hub" is a one-stop information hub for land data exchange. The exchange of information is done electronically, and allows the public sector to access a standardised set of data, such as buildings, roads, utilities and topography to facilitate planning work.

The URA uses a Geographical Information System (GIS) and 3D visualisation models in our daily work. The Singapore Land Transport Authority uses transport modelling software systems to forecast traffic patterns and plan transport infrastructure.

Under the e-Government Action Plan, more than 1600 government services have been implemented online, ensuring a more efficient delivery of these services. For example, URA's Electronic Development Application (EDA) system has led to all development applications being submitted online, which is a fast and convenient way to submit plans. The URA's Real Estate Information System (REALIS) provides detailed property information on private sector projects in the residential, commercial and industrial sectors. This includes information on existing stock, upcoming projects, time series such as price and rental indices, and land transaction details.

ICT has also increased the government's effectiveness in engaging its citizens. The online forum called "REACH" allows the public to hold discussions on various topics online. This helps the government obtain invaluable feedback, and for people to participate in decision making.

Our experience is that an integrated 'whole-of–government' approach and strong political will is crucial to achieving sustainable development. But many challenges remain ahead. Exchanges of ideas and experiences such as through publications like these are vital. Only when the world works together can we all then achieve a truly better future.

Sustainable Urbanization in European Cities

H. E. Martin Ney
Deputy Permanent Representative of Germany to the United Nations, New York

Today, more than half of the world population lives in urban regions – a development that will even intensify in the future. Urban planning will thus have a major impact in shaping the world of tomorrow. This meeting between private and civil sector experts, mayors and representatives of global cities, governmental and United Nations officials was an important step towards implementing Millennium Development Goal 7 and ensuring environmental sustainability in an urban context.

Germany has a long history of urbanization – our oldest cities were founded more than 2000 years ago. This urban heritage, shared with our European neighbors, represents an integral part of German and European cultural identity.

Yet, cities are far more than cultural heritage. They are home to millions of people, providing them with housing, jobs and leisure time activities. With their high density of universities and scientific research institutes, our cities are also centers of science and sources for growth and innovation – not least in the fields of environmental research and information and communication technologies.

Today, our cities are facing considerable challenges due to the influx of migration on one hand and the impacts of climate change and environmental problems on the other hand.

Migration intensifies diversity within our cities. Our cities must therefore become places of integration and ensure both social balance and cultural diversity. We have to make sure that all of a city's inhabitants benefit from urban developments.

During its EU Presidency in the first half of 2007, Germany expressly encouraged a broad European discussion process on qualities and prospects of European cities, which led to the adoption of the "Leipzig Charter on

Sustainable European Cities" on 24 May 2007. For the first time ever, this Charter assembles principles and strategies for a common urban development policy. The Leipzig Charter conveys a clear political statement in support of the important present and future role of the cities. With most of the European population living in cities and urban regions, governments bear a specific responsibility for urban development on a local, regional, national and European level. Urban development must, however, outreach the public sector by involving both the private sector and civil society. Through their involvement, urban development can accomplish a major role in strengthening democracies at a local level and ensuring economic efficiency.

A central message of the Leipzig Charter is the aforementioned social and cultural integration. Concrete measures imply the fostering of affordable and efficient public transport, the strengthening of the local economy and labour market policy as well as initiating an active educational policy.

Another important factor strongly linked with social and cultural integration is the aesthetic aspect of urban planning. Restoring and creating urban quality is necessary to ensure an attractive environment for existing and future inhabitants.

Last but not least the Leipzig Charter addresses the significant role of urban development in tackling the issue of climate change. Around 75% of the world energy is consumed by cities. The European Union has decided to reduce carbon emission by 20% until the year 2020. An important measure to achieve this goal is the promotion of public transport, cycling and pedestrian traffic in urban regions as forms of ecologically friendly transportation. Another necessary step is to ensure sustainability and energy efficiency both during the construction of new and the renovation of existing buildings.

Encouraging projects do not only exist in Europe. Among others, Bank of America Tower and The New York Times Building in New York give impetus to sustainable urban planning in the 21st century not only from an environmental but also from an aesthetic and social point of view.

Sustainable Urbanization in the Information Age in Barcelona

H. E. Ramon Garcia Bragado
Deputy Mayor for Urban Planning and Housing, Barcelona City Council, Spain

The development of humanity includes the development of cities. I think we would clearly agree that any issue that pertains to the development of cities is a transcendental matter and as part of that development we should take into account the criteria of sustainability. What was rhetorical until now is gradually appearing on the agendas of politicians and economists in the major cities of the world. In this presentation I am going to try to lay out some of the key points that have been the focus of attention in Barcelona over the past new years.

Barcelona is a city; it is a small municipality, 100 square kilometers in area with a population of 1.6 million. In a metropolitan area of 4.6 million, the density of population is 15 inhabitants per hectare. There are in all 160 municipalities and each day, in and out of Barcelona, 1.2 million vehicles transit. It is the 8th largest metropolitan area in the European continent.

Perhaps it would be useful to look at some of the data from 1992, when the Olympics were held in Barcelona and compare those with the current data. The data reflects a city which overcame the post-Olympic crises and which at the moment is improving aesthetically and growing in activity. When we talk about improving the city of Barcelona, it is important to determine the direction in which we are going to move forward. The Roman city, Barthino is the city within the Roman walls of the 2nd century. As a medieval city Barcelona started breaking down its walls in the 18th century and by the 19th century the walls were down completely and the city has begun to expand.

Barcelona as it is now has three million inhabitants, consisting of approximately 14 municipalities. There are three areas of intervention marked there from 1979 onwards when we had a democratic government and a local government. There were small interventions basically in the public domain, which had an impact on the plan of Barcelona.

The main thrust in Barcelona has been on the recycling of the existing land. As it is impossible to expand further in Barcelona, we have to focus on the existing urban areas, on the historic and industrial areas. We have to work on those areas that have not been included in the economic plan. The restoration of that land and territory is an essential element in any sustainable proposal.

It is important to understand that the dense and compact city is more efficient from the point of view of sustainability and ecology. Clearly in a heavily populated city such as ours, it is imperative to have open public spaces in order to balance the density of the population. In the area of social sustainability there is a realization of the need to counter social imbalance by developing an effective network of social services underlining the need for increased investment in social housing, schools, health centers, residential centers for the elderly etc.

Public transportation is yet another area of concern deserving attention. Mobility is something we consider as being the right of every citizen. The difficulties in public transportation and the need to use private transportation in the medium term represent a real challenge. This is further aggravated by the problem of congestion in Barcelona. Hence we are investing in public transportation and efficient design of service networks with the overall objective of developing a user-friendly network covering extensive areas in the city.

The historic center of Barcelona is medieval and Roman in character. It is the central tourist attraction in Barcelona. In order to add to its charm it is necessary to reposition public areas and individual houses. The city is subsidizing the rehabilitation of private housing in order to ensure that the building structures are kept safe. In this 150 years old center, houses are being refurbished and parks of an area of 1000 square meters are being laid. Similarly, the existing incinerator purifying plants and electric plants have been restructured both to become more useful to the citizens with multiple use capacity and also to be more presentable. We have also designed a university, a residential area, a major convention center with a capacity of 2,500. The municipal authorities have been carrying out their functions very effectively and are engaged in restoring the marginal and industrial areas.

In the field of public transportation the construction of more than 400 kilometers of a new metro line will enable us to interconnect the metropolitan areas, more efficiently. Metro is governed by the municipality and the network by the local government. They are both moving forward in tandem with a view to expanding the area of its coverage.

Sustainable Urbanization in the Information Age in Bilbao

Pablo Otaola
General Director of Bilbao's Reconstruction, Bilbao, Spain

Since the construction of the famous Guggenheim Museum of Frank Gehry, there has been a complete process of transformation that, among other things, has made Bilbao a more sustainable city. Still I must confess that the main reason for the change has been the absolute need to change our economic system because of the situation in which we were at the end of the 80´s. I am going to talk about environment, infrastructure and urbanization and about our way to try to create a more sustainable Bilbao.

Situation

Bilbao is 700 years old and the main capital of the Basque Country. It is situated in the North of Spain by the Atlantic Ocean and in the South-West of Europe close to the French border. It is a city with 380,000 inhabitants within a metropolis of 900,000 inhabitants. From its inception, Bilbao has been developed along the river Nervión which has been the core of our life especially of our economic activity as a linear metropolis. Since the middle of the XIX century, Bilbao became a prosperous industrial city that kept growing till around 1975 with all the industry developing close to the river.

Unfortunately our industry was too concentrated in steel factories, shipyards and the port. Bilbao became a very prosperous city but also a very non-sustainable one, because we did not care about the environment and we were slowly consuming our natural resources. Then came the economic crisis of the 70´s, resulting in serious consequences including:

- closing down of enterprises;
- rising level of unemployment to 30%;
- increasing incidence of worker's strikes and demonstrations;
- closing of industrial units along the river banks;

In August 1983, we were hit by floods that devastated all Bilbao city centre.

Strategic Plan

Things could not have been worse, hence the need for a radical change. Our economy was derelict and our metropolis was in very bad condition from the environmental point of view.

In 1990 a Strategic Plan was devised as the starting point of the change. The Plan urged for a global transformation and considered several options finally deciding to act up the following:

- environmental regeneration;
- public transport;
- urban regeneration;
- culture and leisure;
- education (new skills);
- social integration.

We did not make changes only because of sustainability issues, but because of extreme necessity. For the physical change two elements were strategic to create a new structure for the territory and to allow further urban regeneration projects:

- environmental regeneration;
- public transport.

Environmental Regeneration

Our main asset the river was absolutely polluted due to industrialization and due to the lack of interest in our environment. In fact we have been living without looking at the river. There are 3 objectives:

- One of the big investments has been in setting up a new sewerage system to prevent dirty water from polluting the river and the water treatment plants;

- Once the river was clean we were ready to create promenades and to live closer to the water; for the first time we have started lo live by the river and to use waterfront for recreation;

- The third element was to create parks and green spaces in all the new developments.

Public Transport

The investment in public transport has been enormous. The objectives were to increase its accessibility, to reduce the use of private cars and to improve quality of life. In this area we have worked with three ideas:

- To create a new infrastructure: Metro (Subway);

- To reorganize the existing railway lines;

- To build an additional tramway line to serve the new areas.

The new Metro is the key to new Bilbao because it has integrated the metropolis. The Bilbao Metro was designed by Norman Foster and it has been the first example of international architecture in Bilbao. The first line of the Metro was opened in November 1995 and still is considered the best project by the citizens of Bilbao. We can see the success of the Metro through the positive public reaction to a successful public work project.

We also had to take advantage of the existing railway lines. They have been reorganized and connected with Metro. Some freight lines were transformed into passenger routes and a new boulevard was created. To complete the scheme and to serve some of the new urban projects a tramway line was also built.

Examples

You have seen the problems that we had, but some of these problems have become opportunities for Bilbao. The land used by the former steel factories, shipyards, railways and the port became the land for the new urban projects. Since the industry was mainly situated along the river, the new projects are in the centre of the metropolis.

All the projects that we have developed follow some common patterns that have to do with sustainability:

- reuse of existing city;

- density;
- mixed uses;
- global approach, including environment and transport.

In the transformation of Bilbao the “tools” have been very important. To develop most of the urban projects a public company was created in 1992. It is called BR2000 and is owned by all the administrations, from the federal to the local. This company still provides consensus, approval and support. The overall vision was to recover the river as the centre of the new metropolis.

Ametzola was the first project that we started and was developed by BR2000. It has 100,000 m² and is situated in the South of the centre of Bilbao within an industrial surrounding with no green spaces. It was a former freight railway station. The idea is a residential project (1,000 dwellings) with a park (36,000 m²). We covered the railway and created a station for passengers to have a good transport system.

Zorrotzaurre is the last project and we are trying to make it into a model of sustainability for Bilbao. In this case instead of using BR2000, the public company, we have chosen a different model: a public-private partnership. It has 670,000 m² and was a port installation with industries around it. Its elements are:

- the waterfront;
- the peninsula, which is going to be transformed in an island because of the flood prevention.

Like the other projects, in Bilbao we have:

- Reuse of the existing city;
- Density: 5,600 apartments;
- Tramway;
- Architecture.

The changes include:

- Reduction of the use of the car;

- Urban Technological Park dedicated to environment industries;
- Energy design:
  - Central District Heating
  - Buildings;
- Cleaning the polluted land;
- Preserving the old structures:
  - Residential
  - Industrial.

Bilbao has started a process toward sustainability, but still has a long way to go.

The City of Newark: Planning for Sustainable Growth

H. E. Stefan Pryor
Deputy Mayor, City of Newark, New Jersey, USA

Newark's central location makes it highly accessible. Newark is also very close to New York City. This proximity and the strength of public transportation infrastructure have led us to encourage transit oriented development.

Newark is/has:

- a global transportation hub;
- a center for higher education;
- resurgent business climate;
- cultural marketplace.

We are now seeing development around Newark Penn Station, as well as the Broad Street Station, which is a point of origin or departure for over 8,000 passengers daily.

The Transit Hub Tax Credit that the State recently introduced will make this easier, providing a tax credit of up to $75 million for businesses located within a half-mile radius of a transit hub that employ over 250 people (200 of the jobs must be new to NJ). We are working to help companies take advantage of this incentive for transit-oriented development.

Centrally Placed on Northeastern Seaboard

- Port of Newark - Largest on the East Coast, 3rd largest in the USA
- 13 miles and less than 20 minutes to midtown Manhattan
- Convenient connection to Boston, Washington DC, Philadelphia & abroad

Region's busiest airport: Newark International Airport

- 30 million passengers annually
- Hub for Continental Airlines with more flights than any other City
- 17,000 parking spaces and 2,000 hotel rooms
- Air Train six minutes to Newark Penn Station

Hub for all mass transit and linkage to major highways

Largest Central Business District in New Jersey

- Downtown daytime workforce of 46,966 employees at 2,436 businesses within at 0.5 mile radius
- 14.5 million/SF of office sector space (48 Class A & 23 Class B buildings)
- Affordable rents compared to midtown Manhattan, Lower Manhattan and Jersey City

Active Corporate & Business Community

- 24,288 businesses and 76 company headquarters
- Newark Regional Business Partnership maintains over 3,000 members of leading corporations, small businesses, universities and not-for-profits
- $17.5 million Streetscape Improvement Project to transform 56 blocks downtown

International Headquarters & Regional Offices

Our goal is to have all new municipal buildings be LEED certified, and the two that are coming on line will be LEED-certified - This is a rendering of the 5th precinct, which will break ground before the end of the year. Another precinct, in the North Ward, will be built in about 2 years.

ESCO energy audit/re-lamping for all municipality buildings –

- ESCOs (Energy Service Companies) will come and do a preliminary energy audit (municipal contracts can be up to 15 years if they're designed to produce energy savings).

- Newark will choose one and enter into a performance contract in which the ESCO will perform a more comprehensive energy audit and then they'll retrofit buildings at no cost. They guarantee energy savings from the retrofit, and if there are no energy savings, we don't pay them, and what energy savings there are, we pay back through the incremental difference on our energy bill.

- Preliminary audits should be underway by the summer.

Exploring hybrid delivery trucks and city vehicles

Major public-private initiative spearheaded by Mayor's office will transform parks into catalysts for community revitalization:

- Newark's 71 parks need significant re-investment to serve residents' needs;

- Currently, Newark has only 2.9 acres of parkland for every 1,000 residents (lowest of 55 largest cities in USA);

- $19,460,000 in capital budget funds dedicated to park improvements in first capital budget adopted under Mayor Cory A. Booker;

- Innovative partnership with private funders will augment resources for open space;

- Eleven parks selected for maximum community impact will be targeted for pilot programme.

Master Plan will incorporate a sustainability element, ensuring Newark's compliance with the Clinton Global Initiative and the New Jersey Global Warming Response Act.

Planning guidelines have lowered the parking requirement for infill development, reducing reliance on car travel and encouraging use of public transit.

Downtown plan requires projects to limit impervious surface areas, increasing green elements and reducing storm water run-off.

Green design standards are being formulated (based on examples from Chicago) that will require sustainable components such as plant buffers along lot perimeters.

City development policies for private builders incorporate green requirements and incentives.

Tax abatement policy requires all new residential and office construction to meet Energy Star standards.

Additional benefits may be available for projects that achieve LEED certification incorporating particular credits designated by the City of Newark as important priorities. Examples include air quality to combat asthma, construction recycling to promote materials conservation and green jobs, and urban heat island reduction. Projects that achieve LEED certification, incorporating the Newark "priority credits" will be eligible to receive a 10% reduction in the annual service charge payments owed to the City. LEED Silver with "priority credits" would be associated with a 15% savings and LEED Gold with a 20% savings.

The abatement policy also provides for savings related to local hiring and contracting and affirmative action hiring and contracting. The most beneficial terms would therefore be available to projects that build green using local labor and businesses.

Land disposition policy prioritizes projects with energy efficient design and other green elements in the competitive bidding process. In addition, projects will be required to meet green design guidelines at the City's discretion.

The Richardson Lofts is a 72-unit residential project with 20% affordable housing. Newark will be seeking LEED certification for the Richardson building. Lincoln Park Redevelopment, LLC, led by Baye Wilson, has completed the first residential phase of its project, involving six multi-family townhouses, and the company has broken ground on the second phase of a residential mixed-use development. The project, which involves 200 residential units, including a 20% affordable housing component, will receive HOME funds from the City. The development will also receive LEED Silver certification, and it is at the fore of a growing trend toward green development in Newark. The project also includes indoor and outdoor public and cultural space, including a restored South Park Presbyterian Church Façade. This historic façade will be refurbished for use as a public green space and performance venue, and the administration will fund this improvement with UEZ funds this spring.

Through the Brick City Development Corporation, the City's economic development corporation, as well as through the Office of Economic Development, we are working with developers to help them take advantage of incentives offered at the City and State level for green development. The State Board of Public Utilities, the Department of Environmental Protection, and the New Jersey Environmental Infrastructure Trust, among others, all offer considerable incentives for sustainable development, and we are working to encourage developers to take advantage of these.

BCDC also hopes to sponsor USGBC LEED trainings to encourage developers to consider building green projects.

- GreenCAP - a programme sponsored by Lincoln Park Coast Cultural District, a nonprofit organization anchoring the revitalization of the Lincoln Park neighborhood, will train Newark residents referred by the City in four licensed trades - sprinklers, HVAC, electrician, plumbing – with an emphasis on green materials and installation techniques. The graduates of the programme will be placed on job sites controlled by Lincoln Park Redevelopment as well as other green building projects around the city and the region. The programme expects to graduate 100 students in the next four years.

- The City's abatement and land disposition policies will create increased demand for green construction work, expanding the pool of jobs available to local residents in green building. State initiatives as well as efforts from local institutions such as the New Jersey Institute of Technology provide support for attracting innovative green industries that will also expand green jobs in the city.

- The City will foster a significant expansion of participation in the New Jersey Clean Energy Programme's Comfort Partners project, which provides free energy retrofits for income-eligible households in New Jersey. The City will work with local nonprofits and contractors employed through the programme to maximize the number of Newark residents trained and hired to perform retrofit work. The workers will then be available to do retrofit work for other entities, including Energy Savings Performance Contract companies, operating on a for-profit basis in the surrounding area.

95% of cargo shipped to region comes through the Port of Newark, New Jersey:

- 11% cargo to USA (ocean borne).
- 11% growth (2006).
- Expected to triple throughput in the next 30 years.

Unlike some competing ports, there is very little vacant, available land surrounding Port Newark/Elizabeth. At the same time, *there is a "huge amount of interest" in the area* – Stan Danzig (Cushman & Wakefield). *We are seeing "increasing demand for speed-oriented facilities in hub/gateway metropolitan areas near major transportation infrastructure"* – Brownfield Report (NJIT). *"For sale properties in this [Port/Airport] area are in high demand as is shown by elevated asking prices and the very little supply currently on the market."* – Colliers Northern NJ Industrial Market Overview, Winter 2006.

The Freight Village would assemble underused parcels to create a zone that would provide centralized port services, including:

- Container Storage
- Overnight Secure Truck Parks
- Remanufacturing/Maintenance
- Distribution Centers/Warehousing
- Surge Capacity Facilities
- Transload Facilities
- Heavyweight Facilities

The environmental benefits include:

- Brownfields remediation
- Reduced truck travel through neighborhoods
- Reduced overall travel by trucks.

Sustainability coordinator: this privately funded position will work out of the Economic Development Office to coordinate city sustainability efforts.

Clinton Global Initiative: The City of Newark and the Apollo Alliance, as partners and members of the Clinton Global Initiative, commit to organize Newark's Green Future Summit to identify best practices and mobilize the resources to make Newark a national showcase for clean and efficient energy use, green economic development and job creation, and equitable environmental opportunity. Commitment Cost: $350,000

The Apollo Alliance, the City of Newark, and listed partners commit:

- to bring together a diverse group of resource people and community leaders to give time, dollars, expertise and enthusiasm to planning and hosting Newark's Green Future Summit in late Spring 2008;

- to develop a roadmap for sustainable development in the City of Newark with ideas emerging from the Summit; and

- to expand and support an ongoing national advisory network on sustainable community and economic development to report to the Mayor and support the city in developing green urban initiatives that create jobs, increase community welfare and expand economic opportunity.

Recycle Bank: the City is considering participating in Recycle Bank, a programme that offers residents gift cards to national stores in exchange for recycling.

Urban Heat Island Reduction: Offering residents a modest tax credit in exchange for painting roofs white to increase surface albedo (amount of sun reflected back); it therefore reduces effects of global warming and urban heat island.

Introduction to the Sustainable Development in New York

Rick Bell, FAIA
Executive Director, American Institute of Architects - New York Chapter

Rit Aggarwala and his extraordinary staff are the primary authors and implementers of Mayor Michael R. Bloomberg's PlaNYC2030, the environmental master plan for our City that was announced about a year ago, on Earth Day 2007 at a seminal speech by Mayor Bloomberg at the Rose Center. I certainly do not need to summarize the goals and aspirations of PlaNYC, nor elaborate upon the 127 specific points, such as the planting of a million trees, which the City of New York is now starting to make happen. Perhaps my role is simply to put it into the context of why now, and why New York.

As a native New Yorker, I have been in awe of the United Nations and of the people who, in all tongues and with global sagacity, debate and determine, here, the future of the world. And, as a New Yorker, I know that equivalent conversations take place on every street corner, at almost every watering hole, and at such places as the Regional Plan Association and the AIA New York Chapter's Center for Architecture. At the United Nations, and at the Center for Architecture on LaGuardia Place in Greenwich Village we discuss how our communities, how our cities, how our countries can be brought to heightened levels of habitability, how our neighborhoods at all scales become more livable and more sustainable. Interventions can be by public policy, and we have in common the goals to bring a sense of civic engagement to the discussions of built form that in turn inform project programmes, building design and the creation of more vibrant cities. We "walk the walk" on these efforts in how we work at the Center for Architecture, where the renewable cork on the wall softens the sharp elbows of friendly disagreement, and two geothermal wells, each 1,260 feet - or 381 meters - deep brings constant temperature water at 55 degrees Fahrenheit (about 13 degrees Celsius) into a closed loop systems that supplies the embodied energy for the air conditioning that cools the heated discourse and helps achieve calm if not dispassionate consensus.

Since his election as Mayor of New York in November of 2001, there has been no stronger advocate for the health and well-being of our city and its inhabitants than Mayor Bloomberg. He has done so, with capable colleagues in municipal agencies and partners from business and the civic community by making changes in the Health Code, including the banning of smoking in public places. He has done so by changes in the Building Code, bringing an archaic and obsolete 60-year old virtually incomprehensible document into line with the construction technologies and practices of the 21st century. And he has done so by changes in the Zoning Resolution and City Planning process, assuring a future with affordable housing and places to work and to play for the million more residents of New York anticipated to live within our borders by the year 2030.

As important for the future of New Yorkers and others in the metropolitan region, the Bloomberg Administration has created an Office of Long-Term Planning and Sustainability that looks beyond the quick fix, the immediate need, the politically expedient expenditure, to focus in on climate change, on global warming, on the changing demographics and expectations of the most internationally fluent and globally diverse population of any city on this continent.

The result is PlaNYC. Whether addressing issues of water quality, air quality, or the quality of life, the specifics and points for implementation of this PlaNYC put New York City in the front ranks of urban centers around the world who have recognized a moral commitment and political obligation to set examples, to be exemplary, and to explain as well as carry forth with the ideas that can at the scale of our city of eight million individuals have regional and even global impact.

A dozen workshops on PlaNYC have taken place at the Center for Architecture, organized and orchestrated by Ernest Hutton, Assoc. AIA, FAICP, the co-chair of New York New Visions and of the AIA New York Chapter's Planning & Urban Design Committee.

All these efforts will make a huge difference to the 8 million people who walk our streets and breathe our air. Whether the issue is traffic congestion – and congestion pricing - or air quality, we shall see in the article about New York City.

Sustainable Urbanization in the Information Age in New York

Rohit T. Aggarwala
Director of Long-term Planning and Sustainability, New York City Mayor's Office of Operations for PLANYC 2030

On Earth Day 2007, Mayor Bloomberg released PlaNYC in response to the exciting and daunting situation New York City faced with a rapidly growing population. By 2007, New York City attracted a record number of residents – 8.2 million – and the City Planning Department projected almost a million more arrivals by 2030. In addition to an ever expanding population, New York City faces the challenges of aging infrastructure and environmental risks, especially those associated with climate change.

Growth will bring diversity, vibrancy, and economic benefits, but it can become paralyzing if it is not smart or guided. Without a strategic and sustainable plan, the growth could undermine the quality of life gains that the city has earned. These challenges and opportunities were the impetus for both PlaNYC and the founding of the Mayor's Office of Long-Term Planning and Sustainability, the office charged with creating the plan and managing its implementation.

The comprehensive set of 127 sustainability initiatives detailed in PlaNYC focus on critical, inter-connected issues: land use, transportation, air quality, energy, water, and climate change. Now, just over one year after the release of PlaNYC, we have launched over 90% of our initiatives. This brief overview of PlaNYC's goals and the actions the city has implemented over the past year captures only a fraction of the activities we are currently undertaking.

Land Use

Land is our most basic and most limited resource. PlaNYC focuses on three key goals related to land use: creating enough housing to accommodate our growing population that is both affordable and sustainable; ensuring that all New Yorkers live within a 10-minute walk of a park; and cleaning up all contaminated brownfields in New York City.

PlaNYC seeks to reduce pressure on land prices by doubling the amount of potential sites for housing development both through rezonings and more productive use of government-owned land. An example of this is inclusionary zoning, which allows developers to build additional floor area in exchange for making a significant number of units in the building affordable. Already there are nine newly adopted inclusionary zoning proposals and ten more in the pipeline, including the rezoning of Jamaica, Queens, in September 2007 -- the largest rezoning of this administration – which paved the way for the creation of 5,200 housing units, including 700 affordable units. New housing must also be sustainable, which is why our rezonings, as in Jamaica, are centered around transit. Many of the new housing developments underway will serve as examples of transit-oriented development. Mayor Bloomberg is determined to direct growth to areas that can handle it. Today, 70% of New Yorkers live within a ten minute walk of a subway stop. 95% of the future development will be near a subway.

In addition to transit, the city is committed to improving access to open space. This requires using our existing resources more efficiently. In the past year, we have opened 69 schoolyards as local playgrounds and we are designing, constructing or renovating 221 more. We have also moved forward on our commitment to create a public plaza in every community. In addition to open space development, we have planted close to 100,000 trees in the last year on our way to one million new trees planted by 2030.

Finally, more opportunities for increasing access to housing and open space can be created by achieving our goal of eliminating all contaminated brownfield sites in the city. To that end, we have been working closely with state government to make our existing brownfield programmes more efficient. In accordance with PlaNYC, the Governor's bill released in March included an incentive to developers if their development conforms with approved processes for increasing community involvement in brownfield reduction. Moreover, in June 2008, we established a City Office of Environmental Remediation to promote brownfields planning and redevelopment.

Water

PlaNYC's water goals focus on both the quality and reliability of the water supply and the health of our waterways, with the goal to open 90% of our waterways for recreational uses. Based on the initiatives laid out in the plan, the City has made a historic $23 billion commitment to improving our water and wastewater infrastructure during the period of 2007-2017. For instance, the city has already acquired over 130,000 acres to protect against development near our critical upstate watersheds. In addition, the city is

moving forward on aqueduct infrastructure projects and the completion of a third water tunnel expected to begin operation in 2013.

PlaNYC is also moving aggressively forward to promote more distributed, and at times natural, approaches to achieve our goals, often called best management practices (BMP). Shortly after the release of PlaNYC, we launched an interagency Best Management Practices (BMP) Task Force to identify cost-effective strategies to better manage storm water and create a storm water management plan—an effort that has been codified into law. The City will release a draft plan in October. In the meantime, since PlaNYC the City has moved forward on a series of BMPs that support the planning effort, such as expanding our Bluebelt network of wetlands by over 100 acres to treat direct discharges of storm water and passing rules to incorporate stormwater management and landscaping strategies into new parking lots. In addition, the state legislature has passed our property tax abatement incentive for green roof development.

Energy

PlaNYC also sets a strategy to ensure clean, reliable energy for all New Yorkers. With current trends, New York City's demand for electricity will increase by a projected 29%, while overall electricity consumption is projected to increase by 44%. Even with this rise in demand, it is unlikely the energy market will provide sufficient new clean, efficient power plants due to risk, lack of incentives, and other barriers, leaving us reliant on an aging fleet of plants. In total, this could result in an increase in our annual energy bills of $3 billion (or $300-400 per household) and 6-8 million more tons of CO2 emissions by 2015. To overcome these challenges, PlaNYC's energy strategy includes initiatives to create new, clean sources of energy supply--including renewable energy sources - while significantly improving the energy efficiency of our buildings.

New York City is already home to new efficient buildings, such as the Solaire in Battery Park City, the Hearst Tower, the New York Times Building, and soon the Bank of America Tower. But 85 percent of New York City's building stock in 2030 already exists today. Therefore, significantly improving the performance of our existing buildings is an important part of our strategy. City government and institutions are leading the way. On July 7th 2008, the City released a long-term plan for achieving a 30 percent reduction in city government energy consumption by 2017, proving that this goal was not only achievable with today's technologies, but also cost effective. So far, ten local universities have accepted a Mayoral challenge to match that reduction commitment. Like the City, they have created their own greenhouse gas

inventories and are working on action plans for upgrading their buildings and greening their overall operations.

For the private sector, we have a three-pronged strategy, for which we plan to roll out a series of legislative and regulatory changes that focuses on transparency around the energy efficiency performance of buildings, the continuous improvements of existing buildings through regular upgrades, and an overall greening of our building codes to remove impediments to green technologies and find opportunities to further green new construction.

Transportation

With more than a quarter of local pollution coming from cars, trucks and other forms of transport while New Yorkers experience some of the longest commutes in the nation, improving transportation is critical to New York's long-term economic health. Of the 231 counties in the United States, the four with the longest commutes are Queens, Brooklyn, the Bronx, and Staten Island.

Encouraging increased use of low-energy transportation modes, reducing constraints on transit capacity, and finding creative ways to fund these improvements are key goals of PlaNYC. The necessary transit expansions and improvements to achieve this were included in the recent MTA Capital Plan – leaving the challenge of providing funding for the capital plan. Though the City Council approved the Mayor's innovative congestion pricing plan in March 2008 to close the transit funding gap, the State declined to vote on the proposal.

The city is moving forward on its programmes, including committing to reaching a full "state of good repair" on the city's roads in part by vastly accelerating the Department of Transportation's repaving schedule. In addition, we have installed 60 new miles of bike lanes in the last year and approximately 800 new bike racks. A number of bus service improvements have been successfully introduced including redesigned bus stops at elevated subways and the launch of an express Select Bus Service corridor in the Bronx.

Air Quality

PlaNYC established a simple yet ambitious goal: achieve the best air quality of any big city in America. Currently, asthma hospitalization rates in the Bronx are four times higher than the national average. New Yorkers still breathe more of the soot that contributes to deadly heart and lung disease than do people in all but one other major American city.

A campaign through the City Department of Health and Mental Hygiene is aggressively monitoring local air quality and targeting key sources of air pollution that we can control. Air quality benefits are being captured from our unprecedented tree planting campaign as well as our other efforts to improve energy efficiency and traffic congestion. In addition, we are focusing on improving air quality through improving boilers, road vehicles and other forms of transportation. For instance, the Taxi and Limousine Commission has passed clean vehicle standards for both yellow cabs and black cars, doubling their efficiency and reducing their emissions. We have also begun to use ultra low sulfur diesel and retrofit our ferries so that they pollute less. Over the next year we will move forward on an educational campaign to reduce vehicle idling.

Climate Change

Ultimately, each of these individual initiatives adds up to a comprehensive attack on the biggest environmental challenge the City – and the world – faces: climate change. PlaNYC established a target of reducing our city's global warming emissions by 30% by 2030. This will be the most dramatic reduction in greenhouse gases every achieved by any American city. However, simply reducing greenhouse gas emissions from current levels may not be enough given that the impacts of climate change are already here. We have already begun to establish a task force to inventory all critical infrastructures that are vulnerable to climate change impacts and develop strategies to protect that infrastructure. We are also engaging New Yorkers at a community level through ongoing pilot neighborhood climate change planning workshops. Our strategy to tackle climate change is the sum of all the parts of PlaNYC from reducing congestion to building cleaner power plants to improving the efficiency of buildings.

Conclusion

In the 1850s, some critics argued that the plans for Central Park were just too big. In the 1890s, some said that a subway system that reached into Northern Manhattan, which was mostly countryside at the time, was too costly and impractical. Our highways, parks, bridges, tunnels and water supply system were all built by a city of people committed to looking forward. That is our heritage. Visionary, long-term investments are what make cities great. PlaNYC is a roadmap for creating a healthier, more sustainable and more economically vibrant city to serve generations to come. Though our achievements during the plan's inaugural year have far surpassed expectations, there is much more work to be done.

Role of Professional Organizations in Sustainable Urbanization

Ernest W. Hutton
Co-Chair, New York New Visions

New York New Visions was formed after 9/11 as a group of 20 professional organizations focused on the redevelopment of Lower Manhattan. When Mayor Bloomberg announced his "PlaNYC", we saw this as the perfect opportunity to expand our purview to look at the long term planning issues in the city as a whole, because we recognized that this plan is a truly magnificent achievement--a paradigm shift in thinking and acting on sustainability. But it is a work in progress and needs input from a lot of different people.

The plan's real importance is that it engages the crucial question of "what is sustainability?" Sustainability predicates a city that can put into dynamic balance its environmental foundations and its transportation and infrastructure needs, in the context of its economic and community - building potential. This process must go beyond individual administrations and span multiple generations.

To establish this balanced plan, NYC as a public sector took the initiative to help jumpstart the process. The city was wise enough to realize that you can't do it all through the public sector. You need support of private sector businesses and civic groups as well as not-for-profit organizations.

For all the plan's success, there have been stumbles along the way as well - for instance, the congestion pricing conflict suffered by not having sufficiently knit together those public, private and civic participants through the support of residents and neighborhoods. That locally-based grass roots support could have provided the crucial but ultimately missing backbone to those legislators whose political votes were needed to set the congestion pricing bill in motion.

Therefore, part of the next agenda for Plan NYC, with which we are engaged in the process of creating, is organizing this grass root support, creating ownership in the plan from those for whom the plan speaks. It is a bottom-up process that complements but does not compete with the necessary

leadership at the top. This broad based grass root dialogue will contribute to the ongoing evolution of Plan NYC, giving it community-based "legs" that will solidify its success to date.

As part of this Forum, in looking at this impressive menu of world cities, we need to learn from them and they from us. How are their plans *environmentally* sustainable -- how do they deal with green issues? How are they *functionally* sustainable -- how do they deal with transportation and infrastructure issues? How are they sustainable in terms of *growth issues*? But above all, looking at this need for popular support, are the plans *politically* sustainable-- how do they engage the democratic process? The process of planning the future and creating quality communities for all a city's citizens, taking a cue from its American predecessors over two hundred years ago, must be ultimately a plan of, by and for the people.

As New York New Visions, we are trying to maximize our own outreach by working as a partner with the city and other actors. Although we are a small group of professionals, we do represent 20 organizations, who in turn represent their own individual memberships-- over 5000 members of AIA, the American Planning Association, and others. We organized six public forums presenting and discussing PlaNYC, and facilitated over 20 meetings of our green, growth and transportation task forces. In these task forces we looked at ways to advise the city on a variety of its initiatives, including its efforts in defining a congestion pricing strategy. We have also been working closely with AIA's Center for Architecture Foundation, teaching school children about sustainability by showing them how to plan their own cities and encourage green sustainable buildings. These are small steps, but we hope that through publicity and use of information technology such as websites, we can expand the impact of these efforts to a much larger audience.

Tough Questions for Mayors

Elisabeth Gateau
Secretary-General, United Cities and Local Governments

We as the global organization of local government are content when there is a dialogue with the local government and when there is the possibility for local government to voice their concerns at the United Nations. In this way we can link local with global. Mayors need an opportunity to explain on how on daily basis they are trying to face the challenges for sustainability. We are developing, a free software to enable mayors to calculate the implication of their planning decisions on carbon emissions on ecological footprint. We are trying to develop it with various networks on sustainability.

My first question to the Mayors will be: Are you satisfied with the financial means and the budget that you have at a time when (taking example of Africa) less than 5 percent of public investment is done by local government, less than 5 percent of financing is available for the local government? Are you satisfied with the financial system with which you must work with?

My second question is: What is a priority for you? What the Mayors and the representatives of the cities must think at a time when the cost of energy is raising sharply and when the prices of food are increasing sharply? We are seeing food crisis. How do you see the priority to have sustainable development? And I ask this question because I have seen some of the plans of the cities that are moving to bio fuels on a large scale. This is their climate plan but at the same time they maintain that bio fuels are part of the cause of the food crisis.

And my third question is: How would you estimate the impact of your policies on sustainable development? What would be the impact of a compact or spread out city? If you look at the example of Singapore, the national government and city government could integrate more easily than in different situation. So this debate between compact or spread out city, isn't it important for you?

There are new modalities including the possibilities of working remotely but does that help fix problems with traffic and congestion? What importance does that have for you? I have heard some of the Mayors say that they want to move jobs in order to avoid people having to travel to and from work. Is it feasible?

CHAPTER 3

CHALLENGES AND SOLUTIONS RELATED TO SUSTAINABLE URBANIZATION IN THE INFORMATION AGE IN THE DEVELOPING COUNTRIES

OVERVIEW

H.E. Baki Ilkin
Permanent Representative of Turkey to the United Nations, New York

As the Permanent Representative of Turkey which hosted the United Nations Conference on Human Settlements (HABITAT II) back in 1996, I must underline that the commitments, recommendations, and the main thrust contained in the Istanbul Declaration on Human Settlements are still valid today both for developing and developed countries.

We live in an urbanizing world. It cannot be denied that we are all attracted to the charms of the big cities. Being hubs for civilizations and culture and with their unquestionable potential, they are expected to offer employment, shelter, stability, prosperity, security, social inclusion and more equitable access to the services. All these would make our lives safer, healthier, sustainable and more convenient. Yet, I am afraid, this is not the case.

We are all aware and feel in various degrees the adverse effects of mismanaged urbanization in our daily lives. These negative effects of rapid yet unplanned urbanization are amplified in the developing countries as they lack adequate resources, basic infrastructure, services and well-conceived planning to redress problems stemming from poverty, homelessness, increasing violence and social exclusion. Climate change and a tight link between urban population growth and environmental degradation also pose a daunting challenge that we must address both collectively and decisively. And we should not forget that sustainable urbanization is indeed an MDG related issue and the challenges posed by it will have a direct bearing on our success to attain the MDGs by 2015.

For sure, the magnitude and the nature of these problems differ from city to city, from country to country. Though they are not uniform we have to recognize that pertaining solutions do have common denominators on which we should all focus. That is the only way to further develop strategies that can be applied according to our differentiated responsibilities and necessities. This requires a comprehensive approach harnessing the efforts of governments, international organizations, civil society and private sector. Fortunately, the benefits of globalization and the rapidly developing

communication technology make this task less difficult. I believe that this book will contribute to this end by providing an opportunity to share our experiences, best practices and possibly our past shortcomings.

Sustainable Urbanization in the Information Age Programme in Kartal, Istanbul

H. E. Mr. Arif Daglar
Mayor of Kartal, Istanbul, Turkey

We are all striving to attain sustainable happiness. We have the obligation to protect the next generation from paying for our mistakes and also to enable them to enjoy the benefits of sustainable urbanization and development.

There are two aspects of sustainability, physical and human. The physical aspects can be attained by the planners of the city. However, everyone bears a responsibility for participation in the process. The cities are like human beings having a spirit. They transform, develop and change. People should understand that the city has a spirit. Our aim is to have a high quality Kartal. We call it Kartality and Kartality is the spirit of Kartal. It is important that all the leaders of the city should implement plans that fall in the realm of realization. You have to strategize administration policy, environmental administration policy, performance management system and security. You must have a system that has the capacity to sustain risks in its march for higher standards and better quality.

Istanbul connects two continents and is like an open museum with all its historical assets. It is a metropolitan area with a population of 14 million. It has attracted an influx of population from rural areas. The pressure of rising population has been felt more acutely in Istanbul because of the fact that the city has only one center. Istanbul needs multiple centers to distribute this pressure systematically. Like Istanbul, Kartal also finds itself in a similar situation, with a population of 500,000. Kartal also attracts population from rural areas like Istanbul. It also has been the center of production and industry. Industrial units are shifting out of the city to more convenient and open locations. About five hundred and fifty-five hectares of land have been made available opening up new possibilities for our project. This work is coordinated between the metropolitan municipality of Istanbul and Kartal municipality. We aim to have a population of two million people in this new city and provide jobs for 100,000 qualified workers. Urban planners and

architects were invited to an international competition and the entries were evaluated by an international jury.

One of the competitors, Ms. Zaha Hadid proposed a programme of land ownership envisaging new and original urban structure with new building blocks on 2000 to 25000 sq meters of land. This plan requires participation of the people, all stakeholders and the local authorities. With big shopping centers, commercial centers and its mixed profile, the city will be active for 24 hours a day. This project was selected especially for its originality. All cultural, residential and commercial activities including the marina are in the city. Such accessibility will relieve a great deal of pressure on Istanbul's transportation system. It will not create problems but will instead solve the problems of Istanbul.

Sustainable Urbanization in the Information Age in Porto Alegre

H.E. José Fogaça
Mayor of Porto Alegre, Brazil

Porto Alegre is located in the South of Brazil and is the capital of the state of Rio Grande do Sul (RS). It has one million four hundred fifty thousand inhabitants, while the state of RS has ten million nine hundred thousand inhabitants. Considering the present exchange rates, our gross internal product is about 4.8 billion dollars.

We can begin defining sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components without leaving a reduced natural capital and an excessive local debt to the future generations, is our mission. We can emphasize issues such as the importance of gender equality, ethnic affirmative policies, participation in decision-making process, and efforts on social capital building in order to achieve our goals.

What are we thinking, what are we planning for our future? We can examine it all, in the perspective of some of the most important guidelines of the city at this moment.

1. The City Gates

The City Gates Project is a project involving the public mass transportation in Porto Alegre. Today we register around thirty three thousand bus trips per day either coming to or going from the downtown area. These bus trips, with the exception of the rush hours arrive in the downtown terminals, with a load of, no more than fifteen percent of the bus capacity. As a consequence we have a number of empty buses, a lot of traffic jams and high carbon emissions in the downtown area.

We want the people to keep coming to the downtown area, as they always have, but we must change the mass transportation system in Porto Alegre.

That is why we have, created the City Gates project, a BRT (Bus Rapid Transit) project that is based on three main foundations:

- the gates (that work actually as commuter interchanges and at the same time, as commercial centers);
- a connection of exclusive bus lanes between the gates;
- a fast bus shuttle connecting the gates and passing through the downtown area.

This programme is of special significance because of the fact that it is being built as a public and private partnership (PPP). I think our project is very similar to the Bogota rapid system, except that we have included the public and private partnership as a possibility.

2. The Social and Environmental Project

The city of Porto Alegre carries away seventy seven percent of all the sewage produced by the population around the Guaiba Lake – without treatment. We decided to change this dramatically by implementing a ten year long programme to save the Guaiba Lake and improve the quality of its water to a level as to make it available for swimming. The Social and Environmental Integrated Project has just begun and is moving the population from the waterways or river banks. It is promoting public housing and is building a large sewage treatment plant. This will not be an easy task, but it certainly is a genuine and sincere resolution aimed at protecting the lake. We will spend two hundred and fifty million dollars in the installation of the sewage system: the pipeline, the treatment plant and the public housing.

The Federal Brazilian Government and the Inter-American Developing Bank will provide financial support. This programme is a commitment to sustainability and will enable ninety two per cent of the sewage to be treated in Porto Alegre.

3. The Management Portal

We have implemented a new model of management for the past three years. Our municipality used to have the bad habit of working alone and to make decisions strictly within its own circles, causing loss of time and absence of wider support. We decided to make a dramatic change in order to improve efficiency. Instead of allocating funds to administrative departments, we decided to allocate funds to programmes, redirecting the budget resources toward a new model of management.

What is a programme in this new model of management? A programme is a group or a collection of actions, from different organizations or from administrative departments, on the same subject. An example of a programme that we have is the "Long Live Downtown" programme, which consists, mainly, of the revitalization of the downtown area. Several Secretaries such as the Secretary of Culture, Public Health, Planning and Public Transportation are involved in this programme.

There are twenty one integrated programmes, with a manager and a management committee. The work of the programmes can be followed by the mayor or by the public through the Management Portal on the internet.

The new model of management means management and financial control in the information age, but it also means strong community participation and transparency. This cooperation will reduce debts, leading to sustainability.

4. Optical Fiber, Power Line and Wireless Connections

Porto Alegre already has 320 kilometers of optical fiber implanted under the soil, but until 2006 these connections were restricted to the most central areas.

Distant suburban neighborhoods like one named Restinga, for example, that is located 30 kilometers away from downtown and is a low income district of Porto Alegre, had been excluded of this digital network. High speed internet was no more than a dream for the people who live there. The ICT enterprise of municipality, that is named Procempa, therefore adopted an innovative solution. The power line system links the distant Restinga to the main digital network of the city using high tension power cables, thus providing high speed access to the world.

Today 75% of the municipal schools are connected. In a very short while, the children in our schools will each have an individual electronic address and a particular email box. Soon it will also be possible for doctors to make diagnosis through the internet.

5. Local Solidary Governance

Local Solidary Governance is indeed a social innovation and is the most important issue among the many different public actions and political initiatives adopted in the last three years. It is the result of cooperation among many actors, such as individuals, dwellers associations, voluntary workers, private enterprises and the municipality in order to determine targets and join efforts to attain them. Local Solidary Governance means cooperation, co-

responsabilty and community initiative. The basic intention is to accumulate social capital for the future.

The ObservaPoa is a special site on internet, where the citizens can find information about the city. It is a city database, with geo reference on social services and other local assets by region or district (for example, indicating the number of elementary schools, police precincts, public hospitals, nursery schools in a region). This would improve the quality of decisions. The ObservaPoa internet site is a people-centered and knowledge-based tool, as recommended by UNDESA Global Alliance for ICT and Development (GAID).

6. The Agency for Innovation

A new agency with the goal of taking advantage of the vocational tendency of Porto Alegre as a technological center in the South of Brazil will be established for innovative solutions.

Sustainable Urbanization in the Information Age in Bogota

H.E. Samuel Moreno Rojas
Mayor of Bogota, Colombia

In order to achieve sustainable development in Bogota, the current and future needs relating to the public and social services were identified based on the socio-economic and spatial structure of the city. The functions, services and ecological structure were identified for the master plan after the evaluation of urban, rural and regional territory. These efforts promoted and ensured:

- Guarantee and restoration of rights;
- Equity and inclusion in the territory;
- High quality and secure infrastructure;
- Monitoring, evaluation and participation;
- Regional integration and environmental balance;
- Corrections relating to current development trends.

In order to achieve sustainability, an ecological and recreative pathway about 42 kilometers long off the Oriental Mountains was established along the city border. This will protect 53 streams and will increase the index of public space per inhabitant from 3.7 square meters to 4.7 square meters.

A Bicentennial Park is created as a public walking space that physically, environmentally and economically integrates the North and South sides of the 26th Avenue.

The District Recycling Programme aims at:

- Separation of waste at the source;

- Usage Selective route;
- Recycling parks and centers;
- Social inclusion of the recycling population.

The following estimate reflects the situation on the ground:

- Domestic waste: 6,000 tons/day
- Current collection of recyclable material: 6 tons/day
- Potential collection: 1,800 tons/day

The water conservation mechanism of Bogota has a Fund to capture public and private resources destined to the conservation of vegetation covers, forests and the protective ground of water sources, to guarantee its current and future production. It is a joint initiative between the EAAB, The Nature Conservancy, the Natural Parks Unit, the Natural Patrimony Fund and Bavaria.

The programme for the recovery of the Bogota River is an ambitious one. The Bogota River is the main water source of the Bogota Savanna, with a length of 370 kilometers. It is the main receiver for the waste of Bogota and the municipalities along the Savanna. For its recovery, more than one billion pesos have been assigned to continue the construction of the main and secondary sanitary sewer system, with 10 interceptors, a retention tank and an elevation station. Additionally we will take steps in the recovery of the wetlands and in the organization of the river basins.

To improve the air quality several measures are being undertaken:

- Modernization of the Quality of Air Monitoring Network;
- Ten-year plan for the decontamination of the City's Air;
- Pact with Ecopetrol for a better quality of Diesel;
- Reconversion of vehicles for use of cleaner fuels;
- Regional Committee on Air Quality – Capital Region.

In order to improve the quality of transportation and achieve energy conservation, Bogota is working on establishing an efficient Metro system. The Metro project will transform the city's mobility, making it safe and efficient and in harmony with the environment, because it will be designed to use clean technology.

With the structuring of the Integrated Public Transport System, the city's vehicles will be monitored and organized. Public vehicles that cause contamination will be taken out of service.

Bogota is also working on an Urban Planning Information System with an integrated component for the management of emergencies.

The Virtual Supercade, which is part of the Urban Planning Information System, ensures:

- Reduction of transaction costs;
- Change in the government-citizen relationship;
- New role of the state;
- Timely information for the citizen.

The Geographic Information System – SIG – georeference – has the following components:

- Physical: utilities, accessibility, social infrastructure, public space, housing;
- Social: segregation, social exclusion, civic participation;
- Economic: stratification, socioeconomic indicators, public investment.

The risk and disaster management is utilizing ICTs for better result. The following studies of threat zones are being carried out:

- Mass relocation phenomena;
- River flood phenomena;
- Seismic microzones;

- Specific studies of risk management (technological risks).

The following challenges need to be handled:

- District – Regional Agenda: urban-regional environmental management;
- Strengthen monitoring and surveillance systems;
- Urban Renovation: optimize space through densification processes-economies of scale in public services and mobility;
- Territorial balance with social inclusion;
- Integral management of HABITAT: (housing, potable water, basic sanitation, public space and urban transport);
- Manage and control the technology, information and communication flows and guarantee access to all citizens.

Sustainable Urbanization in the Information Age in Dar-es-Salaam

H.E. Adam Kimbisa
Mayor of Dar-es-Salaam, Tanzania

The City of Dar-es-Salaam has an area of 1800 square kilometers consisting of 1350 square kilometers of land. Approximate population is 4 million and the growth rate of the population is 6%. It has three municipalities and four local authorities.

In Tanzania, the unemployment rate in both rural & urban areas is around 13%. The main problems are mushrooming of informal and unorganized small-scale businesses and the high rate of poverty with 20% of people living below the poverty line, earning less than US$ 1.00 a day. These result in:

- growth of unplanned and illegal settlements;
- acute environmental degradation;
- population concentration;
- inequality and social exclusion;
- poor urban infrastructure and services;
- increased poverty exacerbating mitigation efforts.

These result in the growth of unplanned human settlements:

- Growing economy (4% p.a.) - attracts more social and economic activities to the city;
- Urban transportation - key for passengers and freight movements for rapid economic growth instead, result in the increased traffic volumes in the city leading to:

- severe traffic congestions;
- extended commuting times;
- low efficiency and productivity in most economic sectors.

The municipality is working hard to implement sustainable urban growth strategies in the city through its own resources and collaboration with other stakeholders to execute various programmes and projects formal and informal sectors with the objective of:

- upgrading basic infrastructure and services in squatter settlements;
- strengthening urban transportation infrastructure;
- improving Solid Waste Management.

Actions taken in the areas listed above are highlighted as follows:

1) Formal and informal sector interventions

- Four existing Markets are improved;
- Two New Markets constructed at Kijitonyama & Temeke providing 1,500 work spaces;
- Introduced models for informal activities within Central Business District (CBD) and Kariakoo areas;
- Informal businesses (Machingas) relocated to suitable areas;
- Construction of 6 Industrial and Business Parks around the city.

2) Upgrading of basic infrastructure and services in squatter settlements

- upgraded settlements in Hananassif, Tabata, Kijitonyama and Sandali through community based initiatives;
- over 15 settlements in Manzese, Buguruni, Vingunguti, and Chang'ombe wards to be completed by June, 2008;
- 15 more settlements scheduled for implementation in Kigogo, Mwananyamala, Azimio and Keko wards (2008 - 2011).

3) Improvement of urban transportation infrastructure

- establishment of Central Bus Terminal:
  - accommodating over 500 buses daily;
  - generating over US$ 700,000 per year;
  - creating more than 2,000 jobs.
- Privatization of Parking Facilities in CBD area
  - generating about US$ 120,000 per month;
  - employing more than 200 people.
- introduction of One-Way System in several arterial roads in CBD area
- introduction of the Dar Rapid Transit Project

4) Improvement of solid waste management

- increased coverage from 10 wards (1994) to more than 50 wards (2007)
- raised collection from 2-5% (1994) to 35-40% (2007)
- created jobs for private sector from 0 (1994) to 3,000 (2007)
- created income/revenue for private sector from 0 (1994) to US$ 120,000 (2007)

5) Upgrading of 3 municipalities into cities

Efforts of the National Government to:

- even resource distribution country-wide
- even social and economic development
- relieve the city of Dar-es-Salaam of the urban migration distress

The challenges the city is facing are numerous and can be summarized as such:

- Inefficient urban growth monitoring mechanism resulting from poor integration information and policies into urban planning efforts;
- Information and policies are poorly integrated into urban planning efforts, thus lack of urban growth monitoring;
- Poor knowledge of the rapid urbanization in relation to urban poverty and land use patterns;
- Inadequate legal and regulatory framework to support the housing sector;
- No formal and affordable housing credit since the collapse of the Tanzania Housing Bank in late 1980's;
- Inadequate national and local government budgets to implement action plans;
- Influx of used and reconditioned vehicles leading to transportation problems due to traffic congestions;
- Uncoordinated city centre redevelopment plans, beach erosion and conflicting land uses;
- Inadequate infrastructure and basic urban services such as water, sanitation, etc.;
- Mushrooming of uncoordinated informal sector activities;
- Invasion of open spaces and hazardous lands.

The Next Steps

The Lord Mayor of the City of Dar-es-Salaam is welcoming all interested partners in sustainable urbanization for possible joint efforts with the City of Dar-es-Salaam, for investment in the new and/or already identified projects on a win-win environment, aimed at improving the lives of the urban poor at the City level. To improve the sustainability of the city national government and local Governments have to develop favourable conditions that promote sustainable human settlements and sustainable cities through:

- acceptance and readiness to include the urban poor as the core in all urban policies and programmes so as to unleash the economic potential of the urban poor;

- enforcing zoning and land use regulations that facilitate compact and mixed-use urban development and reduce ecological footprint of cities;

- formulating human settlement development policy at national and at local levels, that identifies the strategic major elements to shelter i.e. land, infrastructure and services, building materials and technology, finance and institutional arrangement;

- encouraging and participating in international cooperation and bilateral interactive exchanges, e.g. with World Bank, UNDP and some NGOs;

- pro-active measures to reduce further growth of unplanned and haphazard settlements by encouraging block surveying for various land uses;

- using GIS and urban growth indicators to support policy and decision making on various urban development issues;

- ensuring sustainable urbanization and human settlement is a top agenda in National Government and Local Governments cycles.

Sustainable Urbanization in the Information Age in Izmir

Ali Riza Gülerman
Deputy Secretary-General, Izmir Metropolitan Municipality, Turkey

Izmir is the third largest city of Turkey and the second major commercial port, after Istanbul. It has existed for the past 8,500 years, first under the historic name Smyrna. Located on the Aegean coast of West Anatolia surrounding the Izmir Gulf, it is a major city of the Aegean Region, dominating the Gediz and Menderes River's hinterland. It has coastal tourism facilities. Its climate is Mediterranean. The municipal boundaries cover about 550,000 hectars.

In 2007 population of the city (including the metropolitan area) was about 3.3 million. Urban population stood at 2.7 million, and the rural population at 0.6 million. The annual population increase is 0.22% and the population consists of mostly young people.

The technical infrastructure consists of:

- water and sewage system
- waste treatment
- gas and electricity
- communication network
- ports
- roads and parking
- public transportation
- green areas

In addition, we are proud of our social and cultural infrastructure.

The city is fully aware of its responsibility to take care of its citizens and health covering:

- public health;
- environmental health;
- municipal facilities for health.

Safety, including disaster-related safety is also very important.

Illiterate population is lower than the national average. Literacy rate is 92% in the city. There are five universities (covering 0.75% of the area), 400 high schools and technical schools, and 1252 primary schools.

The commercial sector has been developed through the transportation facilities, industrial zones, the Port and professional institutions. Commercial and industrial areas consist of 2.61% of the urban region. Commerce and industry are the basic sectors, including the service sector. 7% of Turkey's export and 90% of regional export take place in Izmir. The percentage of labor force in commerce is 14.54% while it is 20.58% in industry and 28.54% in agriculture.

Aegean Free Enterprise Zone contains a great potential for investments.

Izmir's GNP is 7.6% of the total GNP of Turkey. The growth rate is 4%. Total employment is 1.030,081, out of which we have 191,853 in agriculture and 838,228 in industry and commerce, including the service sector.

PLANNING OVERVIEW

1. Physical Plan

Izmir Development Master Plan (1/25.000 scale) has been approved by the City Council recently. The objectives are:

- Adopting an integrated approach;
- Improving, directing and controlling the spatial development in the area and its hinterland by planned interventions;

- Pursuing a multidisciplinary approach with the participation of academicians, governmental and non–governmental organizations and the public - to build social consensus on the planning decisions and activate community participation;

- Encouraging participation of the citizens in the decision making process giving them a sense of ownership;

- Conducting analyses for every district has been carried out to determine the accuracy and applicability of the existing development plans;

- Improving conditions in dilapidated areas as transformation projects or to decrease spatial densities;

- Detailed investigation on the land will define the Master Plan as a study of a collage of plans leading to more implementable and sustainable planning;

- Izmir Development Plan creates a great opportunity for sustainable urbanization to the Municipality.

2. Land Use

Population of Izmir Urban Region is projected to be 5,732,706 in 2030.

Total area is 550,670 hectares. The major land use decisions include: 3.9% - existing housing; 2.1% - housing development; 3.2% - commerce & industry; 0.6% - tourism; 79.5% - agriculture & forestry; 4.7% - infrastructure; 2.3% - open spaces and public land; 3.7% - others.

3. Environmental Objectives

- Prevention of pollution of water resources;

- Creating potential resources for water supply;

- Protection of water supply catchment areas by supporting organic agriculture;

- Construction of domestic and biological treatment plans;

- Increasing the quality of urban life by creating:

- Liveable spatial sites for housing
- Urban transformation projects for dilapidated areas
- Improved public transportation

4. Infrastructure

- Treatment plants: 5.3 %
- Dumping areas: 1.1%
- Ports & piers: 8.9%
- Roads, terminals & parking: 66.5%
- Water supply: 17.2%
- Electricity & gas: 1%
- Totally 25,695 hectars: 100%
- Technical infrastructure covers 4.7% of general land use.

5. Implementation

1. Political Approach: The following priorities will determine all future plans and will not only aim at upgrading the municipal services but will also enhance public participation al all levels.

- The management plan aims at producing active, effective and high quality municipal services and establishing the necessary mechanisms for the citizens' participation to the decision-making and implementation process.
- For environmental protection and health, a comprehensive protection of urban and natural environment is needed.
- Reconstruction, urban conservation and design need to emphasize that cities live with their cultural heritage. It is a vital necessity to evaluate the past to create the future of the city.
- Urban infrastructure needs investments for effective infrastructure to increase the quality of life.

- Transportation planning is aimed at constitution of economic, comfortable, environmentally sensitive, user friendly transportation approach, which links and gathers different transport modes in a balance.

- Health planning emphasizes the need for economic, fair, qualified health service and creates a society conscious about health care.

- In culture, sports, education services, Izmir wants to increase the quality of life for its citizens.

- Tourism, fairs & external relations are very important as Izmir wants to be one of the most desirable cities in the fields of thermal tourism and exhibitions.

- Disaster management emphasizes provision of safety, carrying out the emergency services efficiently, by early warning and prevention of natural disasters, through preventive plans.

- Information & communication technologies (ICT) aim at achievement of effective and accurate usage of the information and providing access to internet for the citizens.

- Open spaces & recreation areas increase the quality of life of citizens by using contemporary urban design concepts and landscape architecture principles.

- In the area of energy, the objective is giving priority to alternative energy sources.

- Financial resources need to be increased.

- Constitution of a balanced budget for extended municipal services and investments.

- The total employment figure for 2030 is 1,978,801 jobs (for agriculture: 192,094 and for industry and commerce, including service sector: 1,786,707).

The implementation of the plan will be based on public will. Public authorities will work together with municipality and other local authorities; central government, institutions, professional organizations and private sector in order to encourage community participation.

Sustainable Urbanization in the Information Age in Dakar

H. E. Moussa Sy
Deputy Mayor in charge of Administration, Dakar, Senegal

To achieve the United Nations Millennium Development Goals in Dakar, the municipal council, which is presided over by the Mayor, makes use of information and communication technology. This strengthens the economic growth, and improves the quality of life of the population while promoting a dialogue among people and nations. This has provided a viable foundation for work in this area since 2004 when the African ministers met in Dakar to discuss the benefits of information society. The ministers talked about their views on a digital city, which will help reduce poverty and improve living conditions through utilizing sustainable development tools for local governance. There is a land planning programme and focus has been on an investment programme for new generation of public infrastructure and expenditure for social services. During the discussions, consideration was given to devising an effective approach, which could develop the infrastructure in education, health and other areas helping all parties concerned. To this end, a digital programme was launched impacting upon the local population. These policies and issues crosscut and influence the daily lives of the entire population with progress in the sectors of education, health and information. This commitment will also make improvement at the institutional level.

Dakar participated in the Summit on Information Society in Geneva and Tunisia which helped strengthen its cooperation in the digital sector with more pronounced connection with cities like Washington and also with other cities in Senegal. The objective is to have a programme for digital solidarity. We are training young people to work on the Internet and we are introducing pedagogical programmes for teachers and students, covering all the 19 districts of Dakar. This is done in close cooperation with the government and scientific research institutes.

Dakar also has a city website: www.dakarville.sn. There is a municipal radio station which provides municipal and local information, including

information on traffic during rush hour. In addition to these actions, new experiments have been tried with success in different sectors in the area of sustainable development. With regard to the electric energy, a system that saves energy has been tried. Solar energy has also been tapped. There are solar panels in the city, which have been modernized.

In the health sector, Dakar also has introduced a new system of service. There is an emergency medical center, which is equipped with computers and a rescue call system. All hospitals have been provided with Internet connection. The new Optical Care Center in the hospital has been equipped with the more modern technology including laser technology.

We have also established liaison with the private sector to facilitate information for the population and to upgrade the communication system. The Mayor is considering possibilities of improving the infrastructure. Dakar city wants to improve its fiscal policy by managing real estate and by encouraging development of open tracts land besides providing reliable and extensive data necessary for better planning and management of urban centers. With respect to mobility, traffic is another major challenge. As dealing with traffic issues is not a competence of the city, Dakar would however draw a programme to improve video surveillance of traffic with a view to improving urban mobility and security.

As to municipal administration, there are other challenges to be faced. The goal is to automate and provide security for transactions made online for health, finance etc. This also offers the opportunity to discuss important issues through videoconference. Even more ambitious, there is a digital city project which will enable the city to be interconnected through private public partnership. We are on wireless technology and we fully realize that the information technology is among the most important technology available to our emerging cities.

Sustainable Urbanization in the Information Age in Tunis

Mr. Rafik Aouali
Director of Town Planning, Municipality of Tunis, Tunisia

Tunisia is situated in the North of Africa. It is an hour and a half flight away from Bilbao and Barcelona. Total area is 163,610 square kilometers with a population of around 10 million. Literacy rate is 74.3 percent. The urban population constitutes 65 percent of the total population. Life expectancy for women is 65 and 76 for men and the mortality rate is 6 out of 100.

Tunis, the capital is situated between two lakes, a location which we have tried to take advantage of. This has been a very important factor in the development of the city. Tunis is an old city which was a Phoenician center and has existed since 9 B.C. The old center of the city of Tunis has Northern and Southern suburbs. The European center or the European fabric of the city is between Tunis and Medina. In Medina, the population grew from 500,000 inhabitants in 1980 to 2.3 million in 2005 and probably will reach 3.5 million in about thirty years.

The population of Tunis is 1.2 million with residents numbering 609,000. The growth rate is 1.8 percent per year and the unemployment rate is 35 percent compared to the 16 percent unemployment rate at the national level. The largest part of the unemployed comes from the age group of 18 to 24. The state has been making efforts to create jobs for the young employed. The connection to network and electricity is 100 percent, accessibility to water 100 percent and sanitation facility 8 percent.

Tunis has the potential for developing 500 hectares a year including the shores of three lakes and tens of kilometers of coast. We want to have 15 square meters of green area per inhabitant by 2010. Handling of waste material is another major problem. There has been a lot of progress over the last 20 years in the field of urban transportation and infrastructure. We have been able to improve the structure of roads and public transportation and have successfully developed a light railway and a rapid rail transit system. We have restructured the bus network, which has had a positive impact on the

city. With the construction of multi-story parking centers, the availability of parking space has increased manifold. There has been a significant increase in the level of urbanization because of massive immigration from the rural areas. With the influx of population from rural areas to the city in search of employment there has been increased pressure on the urban infrastructure thus degrading urban neighborhoods.

The main challenge is a deficit in social housing. We need to improve the quality of life in urban areas. We still need to intervene in the same way as we did in Northern and Southern lakes area. The center needs to be redeveloped together with areas around the lakes. We need a comprehensive plan to connect the three areas: the city, the lakes and the coast.

Tunis is not a very dense city. It has a surface area of 13000 hectares, divided in 15 municipal neighborhoods, which elects 60 representatives for the municipality. The city has a large zoo; five urban parks; five Muslim, Israeli, Christian cemeteries; industrial zones in mixed areas. Since the 1990s, the city of Tunis set up a collective housing project in old buildings. These are old densely populated housing units that were occupied by young people with low income. This resulted in the degradation of the quality of the buildings within city of Tunis itself, which let the municipality to reconstruct building units in the surrounding areas to relocate people. We have been able to construct these building projects. Some of the housing projects had to be condemned and demolished and others rehabilitated. There are two types of rehabilitation: heavy and light rehabilitation. At the end of 19th century, the Europeanization of the city led to degradation of certain areas. In addition to the abandoning of some activities the city was obliged to accommodate people that were coming in from rural areas and to provide them housing at reasonable pricing. As a result of this congestion, people are living in very small spaces. Significant degradation of horizontal and vertical structures destabilizes the buildings and the population. In order to grapple with this problem, the city has set up a number of projects to remove these buildings. There are two kinds of interventions - some buildings have been condemned for evacuation and demolition while others have been approved for rehabilitation. The plan included relocating people, expropriating the buildings and reconstructing on cleared areas, financed partly by the state and partly by the municipality. The third phase of the work dealt with the demolition and rehabilitating of the buildings that could be saved. The rehabilitation and restoration work is carried out both by the private sector and the municipality. The renovated buildings were put to different uses as also the cleared areas with one turned into a children's park. Loans were advanced with low rates of interest. Over 2000 families were relocated from Medina; 250 additional housings were given to old people. We have done a

great deal of reconstruction work in an attempt to restore the traditional fabric of Medina and to retain its cultural heritage. Extensive loans have been advanced. 400 loans have been given to private owners for restoration of buildings. Forty-five state buildings that belonged either to the state or the municipality have been restored. We have had projects to restore buildings in the private sector such as restaurants, hotels and art galleries as well as craftsmen workshops.

Reflections on Discussions of Sustainable Urbanization

Mona Serageldin
Vice-President, Institute for International Urban Development

Mayor Fogaça of Bogota raised the question that the city size created thresholds that require new primary infrastructure system without which sustainability, whether we are looking at it from environment, economic or social viewpoint, is not achievable. Porto Alegre, which pioneered participatory budgeting as still unequaled instrument of social inclusion and citizenship building, has showed us how they can use ICT through the management portal and the local solidarity portal to ensure performance accountability and solidarity in governance. Barcelona showed how it could use strategic planning. It managed to plan and implement the sequence of very remarkable projects that manage to provide the infrastructure and the quality urban environment that underline its economic success. I mean it almost attracts 40% of all of Spain's foreign investment.

Then we move to Kartal and indeed Mayor Daglar showed how Kartal is going to be developed as a major specialized center in the greater Istanbul region, which in itself is a huge project and simultaneously focus on improving the quality of the urban environment through strategic policies to ensure, as he said, "mange risk rather than crises" to ensure social quality in the environment that people live in.

Then in Dakar city, which of course faces enormous challenges like all cities in the developing world, is using ICT to stimulate the modernization of governance and service delivery in many sectors and promote training of young people through very strategic partnership that it engages in. And finally, Mr. Pryor has showed how impressive turn around Newark managed to do to reverse its decline and it could not have capitalized on its growing role as international hub without good planning and coherent public policy. I think these points deserve that we continue to discuss them.

I would like to have such a great space as in Bogota. In Mexico we do not - we are dealing with small spaces, somewhat in the way Barcelona is doing in

all this inner little spaces that become extension of the houses. We feel that when people have public space, where they can widen extensions of the small houses, so they have a place to do some sports, to have social activities, to recreate the social net that is so needed in every place. So, last we recuperated 800 of these small spaces in 200 municipalities and this year we are planning to recuperate also 1000 spaces in 220 municipalities. More than anything, we try to recuperate these spaces in the **peripherical** area. In these areas that are the marginal areas of the cities - that is where they are more needed. I am very happy to hear that this policy is being applied in most of the cities we have seen in this Book and we would like to learn more of what is being done in other cities.

CHAPTER 4

THE ROLE AND CONTRIBUTION OF THE PRIVATE SECTOR AND CIVIL SOCIETY

OVERVIEW

Thomas Wright
Executive Director, Regional Plan Association, USA

While public policy can shape and direct growth, the private sector is the driving force behind globalization. Since before the industrial revolution of the 19th century, technology and commerce have created strong forces for density and urbanization. As communications technology has ascended, the role of the for-profit and non-profit NGO sectors are only magnified in their importance.

Regional Plan Association is a private, non-profit planning organization that prepares long-range plans for the tri-state metropolitan region around New York City. People are often surprised to discover that there is no public sector entity looking at the entire metropolitan region and planning for its future. In the United States' federal system, a tri-state region falls outside established jurisdictional boundaries. Thus, the private sector steps in where the public sector fails.

Within the region, concerns about climate change – both mitigation and adaptation – are rapidly changing perspectives and goals. Policies which were unthinkable just a few years ago – such as charging automobile drivers to enter into the congested CBD – are being publicly debated and will likely soon come to pass. In many cases, the public sector lags behind the private sector in realizing the depth of change necessary to address these new challenges.

The role of technology in supporting these discussions cannot be underestimated. Improved communications networks provide transparency and efficiency in the effort to find more sustainable modes of living and working. Technology improves both the process of planning – creating new means of connecting communities and societies – and the outcomes.

This panel looked at the contributions of various private sector actors – from real estate developers to social organizations – in nurturing new forms of sustainable urbanism. The panel also considered the relationship between the built environment and communications networks: how emerging

technologies manifest themselves in new communities and buildings, and how technologies are transforming the delivery of public services for disenfranchised populations. From the Manhattan CBD to Third World slums, technology is driving new innovations and opportunities that will re-shape the world. Will these technologies deliver new opportunities to less-advantaged communities, and offer hope for re-balancing global prosperity? Or will the benefits accrue to the few, fortunate communities, creating even more inequality?

Challenges of Urbanization

H. E. Habib Mansour
Permanent Representative of Tunisia to the United Nations, New York

Urbanization has become a dominant phenomenon as the world's population continues to increase exponentially. This is itself beneficial to the environment because it releases pressure from the natural environment and is thus good for conserving bio diversity. But the pace at which the urbanization is proceeding paradoxically presents a real challenge to the sustainability of human settlements. Cities use water, energy and produce waste. They can become potential flash points for economic, political and social crisis.

Policy-makers today have the tools, information, communication technologies for helping them to plan and integrate the principles of sustainability. Are they using them? Is the private sector doing its share in using these tools to the benefit of cities, in their developments, buildings? Do the Information and Communication Technologies develop tools that might be useful to developers, architects in achieving sustainability? Are efforts to achieve sustainability recognized? These are the issues to be discussed in this chapter.

ICTs and Sustainable Urbanization - Enabling the Role of Civil Society

Diane Diacon
President, Building and Social Housing Foundation, United Kingdom

For the last 31 years the Building and Social Housing Foundation has worked to identify innovation in sustainable housing worldwide. Our experience has shown that it is essential to address issues of equity as well as environment and economy if urban areas are to be truly sustainable. Creating sustainable cities is more than reducing their environmental impact; it is also about making them decent and humane places to live.

One sixth of the world's population currently lives in urban slums – their homes are poorly built or non-existent, they go hungry, there is little or no sanitation and they easily get sick. The people living in slums are frequently stigmatised and not perceived as citizens.

Why should we address this of social equity in urban areas?

Firstly, for the reasons of social justice formulated within the Millennium Development Goals; one of which is to improve the lives of 100 million slum dwellers by 2020. But also secondly, by addressing issues of inequality and exclusion we can reduce the growing levels of conflict and crime that are threatening to overwhelm our urban areas. To put it bluntly, if the rich want to continue to live safely and happily, they need to address these issues of inequality and give all citizens a stake in the future of their city. And here I am not just talking about cities in the global South, but also cities of the North where the socially excluded live in crumbling and rotting urban areas. Do people really want to live behind ever higher walls and stronger gates?

How can ICTs help to erode these inequalities and create more socially sustainable cities?

Firstly, I would say that it is important not to overstate what can be achieved with the use of ICTs. Eighty per cent of the world's population has never made a telephone call. Rice and vegetables do not fly through cyberspace and ICTs do not provide security of tenure or basic housing.

A wide range of information and communication technologies can be used to reduce poverty – both for individuals and for cities as a whole. They are already being used to improve health, education and income generation opportunities for individuals around the world, with the use of the internet and mobile phones bringing significant improvements to many people's daily lives.

The focus of this paper is how information and communication technologies can be used to improve the quality of life in our urban areas and enable civil society, including the poorest citizens, to take a greater role in their city.

Two key areas in which this can be done is by facilitating community empowerment and improving urban governance.

Facilitating Community Empowerment

The increasing use of mobile phones, email and the internet has helped to develop and support community participation and activism in urban areas around the world. These technologies help local communities to get themselves organised, as well as keep in touch with other communities facing similar challenges and learning from them.

Support can also be more readily generated in times of need, for example in Buenos Aires, the MTL community-based organisation was able to rapidly summon media representatives and protestors to prevent slum dwellings being illegally bulldozed.

Another benefit of ICTs has been the development of electronic banking systems, which facilitate the easy operation of community-based savings and credit schemes, enabling slum dwellers to improve their homes and living environments using affordable finance.

Improving Urban Governance

The recent advances in ICTs provide opportunities to transform the relationship between governments and citizens in a new way, improving urban governance and bringing city-wide benefit. A range of different information and communication technologies can be used to make governance more efficient and effective, as well as more accessible. Key ways in which this can be done include:

- Computerising government services can make them more efficient and effective. For example, by creating and maintaining up-to-date lists of all property, the city can maximise its property tax base

income and thus improve its financial position. By making these lists publicly available the opportunities for corruption in land transactions can be reduced. Effective use of the internet also provides improved procurement opportunities. ICTs can also speed up the delivery of services. For example, the computerisation of land records in Karnataka, India has meant that farmers can now obtain a copy of their land records in two minutes rather than 30 days, enabling them to raise credit from the bank within five days rather than three months. Over seven million registrations have been completed, the data is securely protected with a biometric fingerprint system and the opportunities for palm-greasing at the various stages of the process have been completely eliminated.

- ICTs can also be used to decentralise government services and increase public access to them. For example, the 23 Citizen Service centres in the state of Bahia, Brazil where federal, state and municipal agencies come together in a single location (often a shopping centre or public transportation hub) to offer the services citizens most frequently need and use – for example on the same day they can get an identification card, official work permits, drivers license, criminal record verification. Mobile vans also visit the most deprived areas to encourage uptake of these basic citizenship documents. Many of the services are also available over the internet. All of this is made possible by the computerised record keeping by the different agencies in the city. This brings tremendous time savings to citizens and cost savings to the government. Similar approaches are being used in other Brazilian cities, including the citizenship streets approach used in Curitiba, where government services are decentralised to 12 locations throughout the city.

- Creating greater possibilities for interactive decision taking and e-democracy, for example in the city of Curitiba, Brazil where there is a sophisticated system of citizen feedback including telephone hotlines, free public internet terminals, city referenda and public petitioning to enable all citizens to make their voice heard. Computer terminals are feely available in small libraries scattered throughout the poor parts of the city. The participatory budgeting process pioneered in Porto Alegre is now used in many other cities around the world.

- Promoting transparency of government activities is vital in encouraging good governance and ICTs can really help here by

enabling the sharing of information by publishing results of city council meetings and decisions.

Information and communication technologies provide a fantastic opportunity for city administrations to begin to erode the inequalities and tensions that are increasingly evident in urban areas around the world. May the Global Alliance for ICT and Development at UNDESA long continue its excellent work in helping to bring this about!

The Private Sector and Leading the Way to Sustainability

Jonathan Durst
The Durst Organization Inc.

As part of its corporate policy, the Durst Organization focuses on environmental responsibility. Some examples of projects that reflect this policy are the building Hilena, New York which is a residential building with a LEED gold rating. Time Square is 1.6 million sq feet building and it is the home of Condé Nast. That building was built before the LEED rating was established, but it was sort of poster child to the establishment of ranking rating system, which LEED formulated after. We are presently seeking temporary certificate of occupancy for a project known as One Bryant Park, which is a 2.2 million sq. foot commercial building and the New York headquarters for Bank of America.

As the Earth population grows, our environmental and social equity issues are in essence resource allocation issues. And the Information Technology can be a way to manage our resources. I will give an example on how to use resources more wisely and more efficiently. When we place a water meter in every apartment, people would use 30 per cent less water simply because there is a feedback loop that tells them what they are using and there is a price for it. We might have an opportunity to put a chip in every car, every parking space, every subway train, every bus, every stop light, every transformer, on everything and then we can begin to manage the flow of our resources in a wise and efficient manners.

Morally Correct Private Sector Approach

Jonathan Rose
President, Jonathan Rose Companies

Over the next 30 years, the USA will grow by 90 million people and the world by three billion people. We are rushing forward without a strategy. Fortunately that growth seems to be focused on urban areas, which are the most environmentally and cost effective, to grow. We must give our cities the resources to plan for and to accommodate this growth.

For our cities to be green and equitable, our urbanization must be designed around:

a. smart infrastructure investments;

b. green jobs;

c. equity accumulation;

d. education for all sectors of society, and all must mean all sectors of society;

e. a commitment to protection and restoration of biodiversity both within cities and outside their boundaries.

Climate change and biodiversity loss are deeply interconnected and biodiversity loss affects the very sustainability of life on earth. The challenges before us are the moral ones. Poverty, health and the environment are deeply interconnected, and are the only viable solutions that are committed to dealing with poverty, health and the environment systemically.

Cities and regions cannot address these issues without funding. Funding is a moral challenge that our nations and the global community must address. To rise to the moral challenge before us, we need a movement that has to come from a transformational ecology, that recognizes that we are all interdependent, and that must combine ecology, economy, and compassion.

We have much to learn from Gandhi's Satyagraha, and Dr Ariatne's Sarvodaya and others.

Mayors are the most likely leaders of this change. The scale of the City and its region is the scale that optimizes flexibility and impact. Mayors have the power to make change and networks such as this meeting, enable us to learn from each other and mobilizes the private sector.

Responsibilities of Information and Communication Technologies and Sustainability

Dick Sullivan
Director, Storage Product Marketing Enterprise Solutions, EMC, Information and Communications Technology and Environmental Sustainability

As a representative of EMC, which is an Information Technology Company, obviously one of the key reasons why we are in business is to deliver information and communications technology to our customers and it is clear that these are very powerful factors in the economic and political change around the world. These are major enablers of advancements that already bridged the gap between developed and developing world. And they show great promise to do more. Access to information is equalizer, a mobilizer in the effort to meet two urgent challenges, climate change and a sustainable global environment. Information of all kinds is growing at an astonishing rate. A recent IT study commissioned by EMC projects the amount of information created, captured and replicated in 2007 as 281 billion GB that is 3 million times of the information contained of all the books ever written. By 2011 the amount of data created annually and added to the digital universe will be 10 times larger or 30 million times the amount of information in all the books ever written.

EMC is a company that is focused on information the most important aspect of ICT. When we consider the implication of data growth on climate change, we ask two questions. First "how can ICT minimize is own impacts on the global environment?" and second "how can IT support changes that help people and organization response tactically, strategically and systemically to create a more sustainable world?

As internet access to information has become global, ownership of the asset pool has become much less concentrated in developed nations. Wide space connectivity and access to information has empowered people to contribute to the world's knowledge from every corner of the world. Harnessing this global human capital represents our best chance to address critical issues such as climate change but this every-expanding digital universe has its own

environmental consequences. While ICT consumes significant resources and it drives every-increased demand for energy, many of these resources are being wasted. Fortunately, it is possible to reduce the IT energy consumption by 50% or more with existing technologies and accepted best practices.

Key strategies include consolidation, virtualization automation and information life cycle management. For cities this means that additional technology can be brought to bear at much less financial and environmental cost. There is also great promise as attitudes shift to support new technologies for distant video and conferencing as substitute for travel. However, this sufficiency gains will only emerge if smart policies are enacted to encourage them. ICT plays an important role in supporting cities and global communities to change policies and outcomes and to achieve sustainable goals. Not only can we reduce the environmental impact of the information explosion but we can promote sharing of information about the environment and sustainability enabling people to come together around the world to devise new approach to speed creation of new knowledge. New global platforms for collaboration, blogs, wikkies and social networks have all helped to create virtual set of communities so everyone can contribute to the global dialogue that widely shares and develops ideas. These fundamental changes are in the area of flow of information, information distribution, innovation and political mobilization. The UNDESA Global Alliance for ICT for Development has already been using these technologies itself to collaborate across the globe. EMC operates in 50 countries and every major city is committed to help UNDESA GAID increase these capabilities with the intent to create global collaboration on a much large scale to advance environmental sustainability. As the number of connections between people and organization increase, the ability to combine and recombine ideas also accelerates. Knowledge sharing also builds social capital and trust and emboldens people to join and stand more forcefully and vocally on their positions. Creating environmental sustainability is a massive undertaking. It will demand global collaboration and co-operation among the largest and most influential stakeholders as well as individuals. And in order to achieve the best possible outcome, involvement of the United Nations, city governments, national governments, non-governmental organizations, businesses, universities, and of course individuals is a must for sustainability efficient energy generation, efficient energy use and preventing climate change. It will require combination of incentives, standards, grants, research innovation and most of all imagination to drive the global changes needed in the face of shrinking timetable. Information Communication Technology will play a critical central part in this urgent task.

Another important part of the discussion on Information Technology was how we deal with energy issues. This started with a notion of ICT itself leading to cleaning its own house. This sector must be accountable for the manner in which it consumed energy. And one of the ways that we advise people to do is by looking at the whole. In another words, this process must be examined systematically. One of the things that strike me is the similar vein of thinking regarding the elements necessary in urban planning and information technology and their interaction efficiency leading to energy efficiency.

The Non-Governamental Organizations' Impact on Sustainability

Suha Özkan
President, World Architecture Community

I would like to remind all of us that dynamics of this century is completely different than the dynamics of the past century. In the past century, we didn't make good use of our time. We were very careless. The world was very polarized in form of North and South, Red and Blue, and East and West. And there was no dialogue. The antagonisms were political and everyone was talking about others as being the enemy. Thank goodness that after 1968, common values began to embrace humanity – values on which the whole world became active after 1990s, at the end of the cold war, and the world became more or less one. At the same time, many of the issues that we are now concerned about became very much apparent. They have started to affect our lives.

We are starting to talk about new politics and this new politics has completely different value systems and new sets of values and preferences. Whoever opposed this is considered unintelligent or irresponsible. These were simple values of the environment, the green, recycling of resources, equity, energy conservation, bio-diversity, democratization, access to resources, natural and renewable energy sources etc. You can go on adding hundreds of related issues to that, but all of them concern us and need to be protected. In this respect, public sector should regulate these values. We must have new legislations, new priorities, new tax exemption, new tax system and new investments.

We have to be more proactive towards the future and conservation of resources. Very interestingly, private sector is making and can make profit out of these values. But now when people go and buy a house or flat, they immediately look at the energy and service bill - they are no fools. Then, they decide how they consume. That was not the case 10-20 years ago - not to be able to open your window for fresh air was a status symbol. Can you imagine it? Fully air conditioned building was a status symbol and now it is an unintelligent choice.

People do not participate in civil society activities for profit or any other perk. They take part and volunteer in a NGO activity because they believe in the mission and they are committed to a cause. I think we will have a better world to live in due to these values and their spreading around with the use of ICTs.

CHAPTER 5

SUSTAINABILITY IN THE UNITED NATIONS

OVERVIEW

Aliye P. Celik
Senior Advisor, Global Alliance for ICT and Development, Department of Economic and Social Affairs

One of the United Nations' biggest achievements is in the area of sustainability. The United Nations has been organizing World Conferences on different areas of sustainability since 1972 starting with the United Nations Conference on Environment in Stockholm, followed by the 1976 UN-HABITAT Conference in Vancouver. The United Nations continued to follow up with the agenda of natural environment and built environment by bringing this topic to the forefront of international community with the 1992 Environment and Development Conference in Rio, Global Conference on Sustainable Development of Small Island Developing States (1994), United Nations Conference on Sustainable Development in South Africa, UN-HABITAT Conference in Istanbul (1996), Climate Change Conference in Bali to name just a few. The work goes on with the United Nations Climate Change Conference that will take place in Copenhagen in 2009. The World Urban Fora organized by UN-HABITAT continue to discuss sustainable urbanization every two years.

The United Nations meetings in the early stages served the purpose of providing an official platform to all United Nations delegations while separate NGO fora were organized for the stakeholders. But a change was visible with the passage of time as the NGOs entered the scene in a big way and their participation started having a direct impact on the outcome of the Conferences. This helped the institution-building process at the United Nations. Bringing representatives of governments and policy makers at the national and international level with the stakeholders, private sector, NGOs, professional organizations, local authorities, community organizations, the United Nations has been very effective in creating awareness on sustainability for over almost four decades.

This section of the book gives detailed information of the latest efforts of some of the United Nations entities, mainly UNDESA, UN-HABITAT and the Capital Master Plan in this regard.

Sustainability in the United Nations Department of Economic and Social Affairs

Nikhil Seth
Director, United Nations Department of Economic and Social Affairs, Office for Economic and Social Council Support and Coordination

In talking about the contribution the United Nations Department for Economic and Social Affairs (UNDESA) is making in the field of sustainable development, first, let me emphasize that all of the divisions within DESA are integrating the concept of sustainable development – which takes into consideration economic, social and environmental factors – within their work, but here I will highlight only a few.

The most closely related to the field is, of course, the Division for Sustainable Development (DSD). The Division is an invaluable source of expertise within the Department and throughout the rest of the United Nations system. It promotes sustainable development as the substantive secretariat to the United Nations Commission on Sustainable Development (CSD) and through technical cooperation and capacity-building at all levels.

The United Nations Forum on Forests, a subsidiary body of the Economic and Social Council, is also serviced by a secretariat housed within DESA. This team supports the Forum in exercising its responsibility to promote the management, conservation and sustainable development of all types of forests – work that stems from the 1992 Earth Summit's "Forest Principles".

My own office, the Office for Economic and Social Council Support and Coordination, backstops the Council in executing its functions. The Council has selected "Implementing the internationally agreed goals and commitments in regard to sustainable development" to be the theme of 2008 Annual Ministerial Review.

As a result, sustainable development has been and will continue to be at the fore of many of our efforts. Our Office held a six-week public e-discussion on the theme, in order to engage diverse stakeholders on the subject. We have also organized several related special events at Headquarters, including those on corporate philanthropy and sustainability, on civil society's role in

promoting sustainable development, on land tenure and management, and on climate change. This book on sustainable urbanization is a usuful part of the same dialogue.

OESC also worked closely with our partners UN-HABITAT and the United Nations Economic and Social Commission for Western Asia (UNESCWA) to organize the regional preparatory meeting on sustainable urbanization being hosted by the Government of the Kingdom of Bahrain.

Indeed, in undertaking its work on this issue, the Department cooperates closely with many partners, including the United Nations funds and programmes dealing with sustainability – especially UN-HABITAT and the United Nations Environment Programme (UNEP).

I would like to add that DESA also provides support for the Chief Executives Board (CEB), which periodically brings together the executive heads of the organizations of the United Nations system, under the chairmanship of the Secretary-General of the United Nations. The CEB furthers coordination and cooperation on a range of substantive and management issues facing United Nations system organizations. Among other things, the CEB has taken steps to establish or strengthen inter-agency collaborative arrangements on the implementation of water-related MDGs and Johannesburg targets, as well as on energy-related issues.

The message I wish to convey with this introduction to DESA's work in the field of sustainable development is that we have a team of able and knowledgeable staff who are working hard to support both the intergovernmental machinery of the United Nations and our colleagues throughout the United Nations system so that all people – present generations as well as future – might enjoy higher standards of living.

Sustainability in the United Nations Headquarters

Michael Adlerstein
Assistant Secretary-General, Executive Director of the Capital Master Plan
United Nations

A ground-breaking ceremony on the North Lawn of the United Nations to celebrate the launch of our historic renovation project – the Capital Master Plan – was held to mark the beginning of a five-year programme to renovate the Headquarters in order to make it a safer, healthier and more energy-efficient environment for delegates, staff and visitors.

United Nations premises, although somewhat tired today, were state of the art when they were designed in 1948 by Wally Harrison, Le Corbusier, Nikolai Bassov, Oscar Niemeyer and the other distinguished members of the United Nations Board of Design. The Secretariat tower was the first large-scale application of a curtain wall. The sloping lines of the General Assembly Building were breathtaking in their originality. Throughout the complex, member states donated masterpieces from the world's greatest artists.

Pope Benedict XVI noted the impact of this great art collection: "Here is this glass palace, the art reminds us of the responsibility of the United Nations. We see the images of war and poverty, and we are reminded of our duty to strive for a better world."

The Headquarters Complex has served well over the past sixty years. But long ago it began to show signs of its age: inadequate security systems, outdated fire protection, asbestos problems, and an antique mechanical system need replacement. However, the most significant problems with the complex are related to its energy inefficiency. This complex leaches heat in the winter, and vents cooling in the summer. One of the goals of our renovation project is to correct this.

We are guided by the direction of the Secretary-General, who has taken the leadership role in combating climate change. Through the work of our design team, we are completing a plan that will greatly improve both the building envelope as well as the mechanical systems of the renovated Headquarters.

Energy consumption will be reduced by forty percent. We have also set a high target for water efficiency. We plan to reduce fresh water consumption by thirty percent. The United Nations renovation also provides a platform for the discussion of many relevant issues for today's Forum.

One important issue for all urban planning is security. How do we protect our significant and high profile buildings, and their occupants, from the hazards of terrorism, which were not imagined just a few decades ago? How do we create a curtain wall in the spirit of the original design, while ensuring it can provide maximum feasible protection from blast threats, and of course, also be sustainable? The extreme answer is seen at the United States Mission to the United Nations, which, for security reasons, constructed the concrete tower on First Avenue. Security concerns are growing and those concerns will affect planning and design decisions for public spaces and prominent buildings everywhere.

Of course, the most critical issue facing our project and this Forum is incorporating sustainability. Our renovation team is deeply committed to doing all we can to make this project as sustainable as possible, and we will achieve the equivalent of a USGBC LEED gold level rating. We will all be very proud of this, but this certification will not reflect the most sustainable action we are taking – to not tear down this complex and build it anew. A new United Nations complex, which was debated several years ago, would not be very different in cost, but it would be very, very different in energy investment.

The energy invested in our old buildings, our old neighbourhoods, and our old cities is enormous, and the sustainable design movement needs to provide better incentives that recognize that energy investment. Our recycling of the steel and concrete of the United Nations Secretariat, rising 40 stories high and going 80 feet deep where the steel piles sit on bedrock, represent the major energy investment of the complex. The "embedded energy" in those old materials, invested sixty years ago, serves as a "carbon credit". By renovating the complex, we are saving millions of tons of carbon from being released into the atmosphere.

UN-HABITAT and Sustainable Urbanization in the Information Age

Axumite Gebre-Egziabher
Director, United Nations Human Settlements Programme (UN-HABITAT), New York Office

Statement Presented by Yamina Djacta, Deputy Director UN-HABITAT, New York Office, Sustainable Urbanization and Human Settlements

Sustainable urbanization is a multi-dimensional dynamic process that includes not only environmental but also social, economic and political-institutional sustainability. It encompasses urban/rural linkages and the full range of human settlements from village to town to city to metropolis. Sustainable urbanization bridges the crucial linkages between cities and their environment, at local, metropolitan, regional, national and global levels. It provides a framework for dealing with the environmental impact of cities on their hinterlands, including adaption to, and mitigation of climate change. It also provides a platform for managing the economic relationship between town and countryside. Sustainable urbanization is a concept that goes beyond the traditional arguments about urban/rural dichotomy and recognizes the need to come to terms with rapid urbanization and urban growth by focusing on the effective management of these processes, to achieve functional, resilient and responsive human settlements.

The economic and social dimensions such as poverty and deprivation, governance, gender inequality and social exclusion are central challenges to sustainable urbanization at all levels. Water and sanitation in human settlements, for instance, are vital for health and economic prosperity especially for the poor. But, if the current inadequate provisions are to be corrected, communities, civil society and local government will have to work together. Local authorities endowed with adequate powers, resources and operational capacity, combined with empowered communities and other local partners are the key actors in the sustainable urbanization equation.

There are many challenges and possible responses to achieve the goal of sustainable urbanization. The principal challenges of sustainable urbanization lie in the general lack of planning and management capacities of local governments and their ability or willingness to work in partnership with local stakeholders. Meeting this challenge requires a combination of policies and strategies that effectively deal with urban governments and management. Key issues include fiscal and political decentralization to enable local authorities to fulfill their full roles and responsibilities in spatial planning and management, pro-poor housing and urban development, and the provision of basic infrastructure and services, including water and sanitation. These issues call for a variety of responses, particularly capacity-development initiatives directed at the full range of local and national authorities and their civil society partners, such as embedding sustainable urbanization in national development policies and strategies; preparing and implementing integrated local development plans and strategies; implementing innovative financing mechanisms for investments in infrastructure, services and affordable housing, demand capacities at all levels. More diverse and active forms of experience sharing, information exchange and mutual learning are called for, including effective access to and use of lessons learned from best practices.

Making cities aware of, and responsive to, their wider social and environmental impacts, especially potentially adverse impact on surrounding rural areas, is another vital awareness-raising and capacity-building task. Equally important is the development of institutions, procedures and capabilities for communities to become active partners in decisions that affect their living condition and livelihoods.

Mobilisation of resources, both public and private, is another key challenge that requires concerted actions and capacity building. Recent experiences have shown that with the combination of enabling policies, strengthened capacities and improved governance and accountability, local authorities in rapidly urbanising developing countries are not only able to raise revenues several fold, but also to leverage these revenues with private and community sector resources to invest in urban infrastructure and basic services, including transport, energy and water and sanitation, as well as to engage in slum improvement. Lessons learned from these policies and practices need to be widely shared and disseminated.

The issue of regional and global cooperation also deserves to be given due attention. Such cooperation can focus on three major aspects. Firstly, identifying areas where regional efforts need to be intensified for building sustainable cities. Secondly, mobilizing regional and global partnerships that

can help promote sustainable urbanization. Thirdly, mobilizing resources and technological know-how, which is key to sustainable development.

CONCLUSION

Aliye P. Celik
Senior Advisor, Global Alliance for ICT and Development, Department of Economic and Social Affairs

All the articles in this Book state that sustainability as an agenda item in development has become even more prominent with rapid globalisation and acute global financial crisis. However, despite resource limitation we do not have the luxury of allowing time to pass. We have to act and we must act now. To save our planet, climate change must be addressed and addressed through concerted and direct action. Sustainable urbanization is a means to reaching our goal. This book puts together the views of the players who have grappled with situations personally and were able to share their practical experiences at the Forum on Sustainable Urbanization in the Information Age. These included Mayors, City Officials and other experts who had utilised the strength of communication technologies to resolve problems relating to sustainability of the urbanization process depending on their respective environment and financial and political parameters. The information coming from them would be of potential benefit to other city officials and local representatives who find themselves faced with similar situations.

Dubai International Award for Best Practices in improving the living environment by UN-HABITAT, and the UNDESA best practices for governments are activities expanding the knowledge base, which are mentioned in this book.

The book includes materials dealing with transit systems, ways of establishing links between different neighborhoods to combat social exclusion, use of information communication systems, thus increasing efficiency and conservation of energy and decreasing congestion, use of information and communication technologies to enhance community involvement, use of certification systems for credits, tax abatement, incentives for developers, using every surface of the buildings for energy conservation.

Throughout the book one can see that there are many solutions to different problems, but one road to success is the decentralization of power to local authorities who have the political will to use latest technologies to achieve urban sustainability. Cities that work together with the stakeholders and strive for solutions are able to succeed in establishing harmonious livable sustainable cities.

AFTERWORD

Sarbuland Khan
Executive Coordinator of the Global Alliance for ICT and Development, Department of Economic and Social Affairs, United Nations

The Forum on Sustainable Urbanization in the Information Age revived the spirit of cooperation and sent a strong message on the role of the United Nations in both sustainable urbanization and the use of information and communication technologies in its achievement. The message embodied in the Millennium Development Goals (MDGs), promoting global public goods, especially ICT - whose benefits reach across borders, generations and populations and include environmental sustainability - building awareness that the ecological balance of the planet is fragile and is easily compromised by common threats to mankind, such as poverty, climate change, global warming, natural disasters, famine and conflicts was emphasized once more.

This meeting rightly connected values to the opportunities provided by new technologies. ICT was seen as a strategic instrument for meeting the challenges and opportunities we face in this information age, not as an end in them, but rather as means -- tools to reach the ambitious goals of the Millennium.

The Forum was special in many ways. It was a gathering of a truly unique set of diverse, high-level participants and an audience composed of a crosssection of people representing all walks of life. The forum provided a rare opportunity to step back and take a macro view, highlighting the use of ICT in reaching the MDGs in the cities. It also presented an opportunity to portray the link between information and communication technologies and concrete MDGs. It was our intent to make this meeting a force for mobilizing all stakeholders to organize our cities in a new way for a better future.

The theme of the Forum appealed to a large number of local authorities, civil society and private sector representatives. There was, therefore, a large base of partners and contributors. The theme reflected sentiments deeply rooted in today's urbanizing world and stressed the importance of an understanding of the progress and strides that the global community has accomplished as

well as the continuous financial problems and inequality that are still present and that must be overcome.

There is a keen interest and genuine support among stakeholders to continue the effective and efficient actions in this area in order to obtain concrete and tangible results with the full engagement of local authorities, the private sector and civil society. It is expected that further partnerships will develop to achieve the Millennium Development Goals and preserve the basic values of the Millennium Declaration in our urbanizing world.

ANNEXES

Annex 1: Programme, Sustainable Urbanization in the Information Age- 23-24 April 2008

Annex 2: Acknowledgement of Partners and Sponsors

Annex 3: Biographies of Speakers and Participants to the Event

Annex 4: United Nations Millennium Development Goals

Annex 5: Visuals from the Presentations

ANNEX 1

FORUM ON SUSTAINABLE URBANIZATION IN THE INFORMATION AGE
23-24 APRIL 2008, ECONOMIC AND SOCIAL COUNCIL CHAMBER
UNITED NATIONS HEADQUARTERS
NEW YORK

PROGRAMME

Wednesday, 23 April

8.30 a.m. *Registration*

9.30 a.m. **PLENARY SESSION**

Welcome by Mr. Sarbuland Khan, Executive Coordinator, UNDESA-GAID
Statement by H.E. Mr. Léo Mérorès, President of Economic and Social Council, Permanent Representative of Haiti to the United Nations, New York
Keynote address by Dr. Anna Kajumulo Tibaijuka, United Nations Under-Secretary-General, Executive Director, United Nations Human Settlements Programme
Mr. Michael Adlerstein, United Nations Assistant Secretary-General, Executive Director of the Capital Master Plan
Mr. James McCullar, President, American Institute of Architects (New York Chapter)

10.00 a.m. **DIALOGUE SESSION 1**

Presentations and dialogue with New York City leaders on Planning for Smart Growth and Deliverables
Chair:
H.E. Mr. Baki Ilkin, Permanent Representative of Turkey to the United Nations, New York
Moderator:
Mr. Rick Bell, Executive Director, American Institute of Architects (New York Chapter)
Panelist:
Mr. Rohit T. Aggarwala, Director of Long-term Planning and Sustainability, New York City Mayor's Office of Operations for PLANYC 2030
Respondents:
Mr. Ernest W. Hutton, Co-Chair, New York New Visions
Ms. Aliye P. Celik, Senior Adviser, UNDESA-GAID

11.15 a.m. **DIALOGUE SESSION 2**

Contributions of private sector and civil society to sustainable urbanization in the information age
Chair:
H. E. Mr. Habib Mansour, Permanent Representative of Tunisia to the United Nations, New York
Moderator:
Mr. **Thomas K. Wright**, Executive Director, Regional Plan Association
Panelists:
Ms. Diane Diacon, President, Building Social Housing Foundation
Mr. Jonathan Durst, The Durst Organization Inc.
Mr. Jonathan Rose, President, Jonathan Rose Companies
Mr. Dick Sullivan, Director, Storage Product Marketing Enterprise Solutions, EMC
*Respondent***:**
Mr. Suha Özkan, President, World Architecture Community

12.25 p.m. **Lunch** hosted by the Municipality of Kartal, Istanbul, Turkey

2.00 p.m. **DIALOGUE SESSION 3**

Mayors and City Leaders on Planning for Smart Growth and Deliverables

Introduction:
Mr. Nikhil Seth, Director, Office for Economic and Social Council Support and Coordination, UNDESA
Chair:
H.E. Mr. Martin Ney, Deputy Permanent Representative of Germany to the United Nations, New York
*Moderator***:**
Professor Urs Gauchat, Dean, School of Architecture, New Jersey Institute of Technology
Panelists:
H.E. Mr. Arif Daglar, Mayor of Kartal, Istanbul, Turkey
H. E. Mr. José Fogaça, Mayor of Porto Alegre, Brazil
H. E. Mr. Samuel Moreno Rojas, Mayor of Bogota, Colombia
H. E. Mr. Ramon Garcia Bragado, Deputy Mayor for Urban Planning and Housing, Barcelona City Council, Spain
H. E. Mr. Stefan Pryor, Deputy Mayor, City of Newark, New Jersey, USA
H. E. Mr. Moussa Sy, Deputy Mayor in charge of Administration, Dakar City, Senegal
Respondent:
Ms. Mona Serageldin, Vice-President, Institute for International Urban Development

4.00 p.m. **DIALOGUE SESSION 4**

Mayors and City Leaders on Planning for Smart Growth and Deliverables
Introduction:
Ms. Yamina Djacta, Deputy Director, UN-HABITAT, New York Office**, on behalf of Ms. Axumite Gebre-Egziabher**, Director, UN-HABITAT, New York Office
Chair:
H.E. Mr. Peter Maurer, Permanent Representative of Switzerland to the United Nations, New York
Moderator:
Professor Lance Jay Brown, School of Architecture, City University of New York
Panelists:
H. E. Mrs. Cheong Koon Hean, Chief Executive Officer, Urban Redevelopment Authority, Singapore
H. E. Mr. Adam Kimbisa, Mayor of Dar-es Salaam, Tanzania

Mr. Pablo Otaola, General Director of Bilbao´s Reconstruction
Mr. Ali Riza Gulerman, Deputy Secretary-General, Izmir Municipality, Turkey
Mr. Rafik Aouali, Director of Town Planning, Municipality of Tunis, Tunisia
Respondent:
Ms. Elisabeth Gateau, Secretary-General, United Cities and Local Governments

6.00 p.m. **PLENARY SESSION**
Conclusions and Future Orientations by the Moderators
Chair:
H.E. Mr. Ambassador Zina Andrianarivelo-Razafy, Permanent Representative of Madagascar to the United Nations, New York

6.30 p.m. **Reception** hosted by the Municipality of Kartal, Istanbul, Turkey

Thursday, 24 April

9.00 a.m. **Tour of sustainable buildings in New York** – Bank of America Tower and New York Times Tower - organized by the American Institute of Architects (AIA), New York Chapter; Presentations and discussions

10.00 a.m. **Tour of David Dinkins Gardens** - organized by Jonathan Rose Companies

12.30 p.m. **Lunch** hosted by AIA, New York Chapter, Centre for Architecture

ANNEX 2

ACKNOWLEDGEMENT OF SPONSORS AND PARTNERS

We gratefully acknowledge the contributions and support of the following in the organization of the Forum on Sustainable Urbanization in the Information Age

ORGANIZERS

UN-HABITAT

Regional Plan Association

AIA New York Chapter
The Founding Chapter of
The American Institute of Architects

SPONSORS

KARTAL MUNICIPALITY

The Building and Social Housing Foundation

The Catalan Center at New York University

Jonathan Rose Companies

PARTNERS

The City of New York

The Institute for International Urban Development

City University of New York School of Architecture

New Jersey Institute of Technology
School of Architecture

ANNEX 3

BIOGRAPHIES OF SPEAKERS AND PARTICIPANTS TO THE FORUM ON SUSTAINABLE URBANIZATION IN THE INFORMATION AGE ECONOMIC AND SOCIAL COUNCIL CHAMBER, 23-24 APRIL 2008[1]

Michael Adlerstein was appointed by the Secretary-General Ban Ki-moon in 2007 as the Executive Director of the Capital Master Plan at the Assistant Secretary-General level. Most recently, Mr. Adlerstein was the Vice President and Architect of The New York Botanical Garden. In the 1980's Mr. Adlerstein was the Project Director for the restoration of Ellis Island and the Statue of Liberty, the most ambitious historic restoration project ever undertaken by the US Department of the Interior. The success of the project led to his promotion to Chief Historical Architect. As such he was recognized as the national expert in the field of Historic Preservation, advising the National Park Service Director and the US Secretary of the Interior on all historic preservation issues. During his National Park Service career, Mr. Adlerstein managed the planning, design, and construction programme for the Northeast Region, including complex partnership projects at Gettysburg, Valley Forge, Acadia, and Jamestown. Mr. Adlerstein is a New York native. He received his architectural degree from Rensselaer Polytechnic Institute, and was a Loeb Fellow at Harvard University's Graduate School of Design. He served as a Peace Corps Volunteer in Colombia, and has worked as a State Department consultant on preservation issues on numerous projects including the preservation of the Taj Mahal. He has been recognized for his contributions to the field of architecture with numerous awards and in 1994 was made a Fellow of the American Institute of Architects.

Rohit T. Aggarwala is Director of the New York City Mayor's Office of Long-term Planning and Sustainability. This office was charged with the creation of "PlaNYC A Greeener, Greater New York", a comprehensive sustainability plan consisting of 127 separate initiatives to green New York City. Dr. Aggarwala is now charged with implementing the plan and supporting other efforts related to the sustainability of New York City. Under his leadership the City has begun implementing over 90% of the 127 initiatives in PlaNYC, including regulations to make the City's taxicabs and black car fleets clean, planting a million trees throughout the five boroughs

[1] Titles reflect the situation on 23 April 2008.

and overseeing the investment of $80 million a year on to reduce City government's greenhouse gas.
A native of Manhattan, NY, Dr. Aggarwala holds BA, MBA, and PhD degrees from Columbia University, as well as a Master's from Queens College in Ontario. Prior to joining the Bloomberg administration for the City, Aggarwala was a management consultant at McKinsey & Company. During the Clinton Administration, he worked at the Federal Railroad Administration. Aggarwala is also the author of several articles on transportation policy and on the history of New York City.

Rick Bell has served, since 2001, as the executive director of the New York Chapter of the American Institute of Architects where he has raised the profile and involvement of the architectural community on public policy issues, including accessibility, affordable housing, disaster response and sustainable design. The AIA's storefront Center for Architecture marks the shifting of priorities to a greater engagement with the public, with many exhibitions and programmes available to all. Previously, Rick worked in the public sector as Chief Architect and Assistant Commissioner of Architecture & Engineering at New York City's public works agency, the Department of Design & Construction. A registered architect in New York, New Jersey and California, Rick was elected a Fellow of the AIA in 2000 for his work in public facility design. Rick holds degrees from Yale and Columbia and has received numerous awards for civic activities and design, including a "Newsmaker of the Year" award from Engineering News Record. Most recently he won the LaGuardia Medallion for "constant and dedicated service" for neighborhood arts and diversity and the AIA's Kideney gold medal for professional service.

Ramon Garcia Bragado is responsible for Secretariat of the Presidential Department of the Government of Catalonia. In addition, he is associated professor in Administrative Law area in the Faculty of Law, Universitat Pompeu Fabra (UPF) in Barcelona. He has been Manager of Urbanism of the Barcelona City Council and Delegated Advisor of the 22@ project. Previously, Garcia-Bragado was General Manager of Localret and in this position he co-directed the Catalan Information Society Strategic Plan, Catalunya en Xarxa.

Lance Jay Brown is a New York based Architect, Urban Designer and Educator. Principal of the award winning studio Lance Jay Brown,

Architecture & Urban Design founded in 1972, he has served as Assistant Director, Design Arts Programme, National Endowment for the Arts and served as Director, Design Excellence Project drafting the guidelines for the Presidential Design Awards Programme. He served as Professional Advisor to the WTC Site 9/11 International Memorial Design Competition; co-directed the 2003 NEA funded Upper Manhattan Heritage Project; served as special advisor to Mostar 2004 Urban Reconstruction Workshop, Bosnia Hercegovina and co-Directed the HUD funded "Crosstown 116: Bringing HABITAT II Home From Istanbul to Harlem". In 2004 he co-directed the national urban design conference "Learning from Lower Manhattan" and in 2005 presented at the "Communities on the Line" Conference in Washington DC. His current book, co-authored with David Dixon, is due to be published by Wiley in 2008. In 2003 Brown was awarded ACSA Distinguished Professor and Fellow, American Institute of Architects and was elected two terms as Board Member for Educational Affairs, AIA New York Chapter. He received the 2004 New York State AIA President's Award for Excellence in Non-traditional Architecture. In 2007 he was awarded the prestigious AIA/ACSA Topaz Medallion for Excellence in Architectural Education, the highest award for an architectural educator in the land. He is currently Programme Advisor to the Institute for Urban Design in New York; Co-Chair of the AIA/NYNV Disaster Preparedness Task Force; and elected Board Member of the CFA Foundation. Brown taught at the School of Architecture at Princeton and served two terms as elected Chair and Director of the School of Architecture, Urban Design and Landscape Architecture at the City College of the City University of New York where he is currently Thesis Coordinator.

Aliye Pekin Celik, senior adviser at the UNDESA-GAID, was instrumental in strengthening the United Nations through innovative participatory mechanisms to build alliances to influence momentum towards addressing some of the world's most pressing concerns in developing countries as the Chief of Economic and Social and Inter-organizational Cooperation Branch, UNDESA. She started the book series on the High Level Segment of Economic and Social Council, worked on the Ad Hoc Advisory Group on Countries Emerging from Conflicts and the Public Private Alliance. As the Head of NY office of UN-HABITAT, she directed the preparations for the World Conference HABITAT II, which was held in Istanbul, Turkey in 1996. She served UN-HABITAT Nairobi and New York, working on building materials, construction technologies, and sustainable urbanization, energy and gender issues. As a principal researcher in the Scientific and Technical Research Council of Turkey, Building Research Institute, and the Ministry of Construction and Resettlement and adviser to the State Planning Department, Ministry of Education in Turkey. She did pioneering work on

energy conservation and affordable adequate housing. She developed the curriculum on United Nations Development Agenda for New School University, GPIA, and was the Director of the Institute for Urban Design. She has degrees in architecture from Middle East Technical University, Princeton University, and a PhD from Istanbul Technical University. Celik is a Fulbright Scholar and received numerous awards from OECD (1972), Princeton University (1979), AIA (1997 and 1970) and Soroptimist International NYC (2005), where she is the President for 2008 and 2010.

Arif Daglar was born in 1954 in Bayburt, Turkey. Daglar graduated from the University of Istanbul, Faculty of Economics. He worked as senior manager in various private companies and led various non governmental organizations. He worked as General Manager at one of the affiliates of the Istanbul Metropolitan Municipality between the years 1997-2004. He had a key role in the formation of the regulations of the bottled water industry. With his domestic and international efforts, he was awarded by IBWA (International Bottled Water Association) and EBWA (European Bottled Water Association). In 2000, his leadership won 5 awards by EBWA and in the year 2001, he won the "Best Marketing Effort Award" of IBWA. He was selected as Mayor of Kartal in the 2004 elections from AK Party. He founded Kartalite Project (Kartal and Quality) which is an integrated model of strategic city management consisting of 7 systems. He played an active role in organizing international activities regarding architecture and city culture in Kartal. With Kartalite Project, he was selected as the most successful mayor in Turkey increasing citizen satisfaction by KALDER-Turkish Quality Association. He has been living in Kartal for 38 years.

Diane Diacon is the President of the Building and Social Housing Foundation (BSHF), an independent research organization that promotes sustainable development and innovation in housing through collaborative research and knowledge transfer both in the UK and internationally. BSHF was granted Special Consultative Status with the Economic and Social Council of the United Nations in June 2006. Diane has published widely in the field of innovative housing solutions, and lectures on sustainable housing issues in a range of academic institutions. She is a Director of both regional and national social housing providers and represents the United Kingdom on the European Liaison Committee for Social Housing.

Jonathan Durst is Co-President of The Durst Organization. He holds a Bachelor of Science degree in Mechanical Engineering with a minor concentration in economics from Tufts University. After his graduation, he worked as Engine Performance Engineer for the Chrysler Corporation and as a Research and Development Engineer for FMC, within a division that manufactured large diesel tractors. In 1984, Jonathan Durst started his career with The Durst Organization within the construction department. He then moved on to directing the Operations of 7.5 million square feet of commercial office space and supervising new construction projects in midtown Manhattan. In conjunction with these responsibilities, he was heavily involved in contract negotiations with tradesmen and vendors, and lease negotiations with prospective tenants. He also directed investigation and application of energy-efficient and environmentally responsible technologies for The Durst Organization. Presently, he works closely with his cousin, Douglas, in sharing the responsibilities of directing the course of The Durst Organization.

José Alberto Fogaça de Medeiros is the Mayor of Porto Alegre since 1 January 2005. Before becoming the Mayor, Mr. Fogaça was a State deputy, congressman and a senator, representing Rio Grande do Sul, completing 24 years of parliamentary experience. Graduated in Law at Pontifícia Universidade Católica from Rio Grande do Sul, he also taught Constitutional Law and Portuguese, and worked as a communicator and a consultant. Mr. Fogaça entered the public life in 1978, as a state congressman. In 1982 he was elected a federal congressman, and in 1986 he won the election to become a senator of the republic. At Congress, Mr. Fogaça was one of the coordinators of the campaign that pressured the federal government for direct elections in Brazil, called Diretas Já, which in 1985 mobilized the country to restore direct elections for President of the Republic.

Elected senator in 1985, and reelected in 1994, he was the assistant-reporter of the National Constitutional Assembly (1987/1988), and one of the responsible for the elaboration of the final text of the current Constitution. At the Senate, he presented a project that intended to institute Parliamentarism as the government system in Brazil, and he took part in three important moments for the growth of social rights in Brazil: the Constitution, the New Civil Code and the Children and Adolescent Statute.

Elisabeth Gateau is the first Secretary General of United Cities and Local Governments (UCLG). Building on her past experience as a local elected official in France, she was previously Secretary General of the Council of European Municipalities and Regions (CEMR), the European section of

United Cities and Local Governments. She then went on to take charge of local government issues within the Secretariat of the European Convention, which prepared the Constitution of the European Union. Accepting her appointment as Secretary General in Rome in June 2003, Elisabeth Gateau stressed the importance of ensuring a strong basis for United Cities and Local Governments in its early years and working towards two major objectives: increasing the role and influence of local government in global governance; and making United Cities and Local Governments the main source of support for democratic, effective, innovative local government close to the citizen. Elisabeth Gateau's contribution to regional and local politics was recognized once more in July 2004 through the award of the Emperor Maximilian Prize.

Urs P. Gauchat is the Dean of the School of Architecture at New Jersey Institute of Technology. Professor Gauchat transformed the School into an internationally recognized leader in the area of CAD (Computer Aided Design) and community development. The School in the past few years has been involved in over 65 community projects. Professor Gauchat is particularly interested in creating a bridge between the considerable resources of universities and the needs of communities. Professor Gauchat holds a Master in Architecture (1967) from the Harvard Graduate school of Design. As a professional and academic he has a long standing interest and expertise in the field of housing and community building worldwide. From 1978-1998, Professor Gauchat was the President of Gauchat Architects, Inc., and has provided full architectural services for many significant commissions of varying sizes for more than 20 years. The projects include: commercial and industrial buildings, housing and other residential projects, office buildings, historic renovations, interiors, retail establishments, as well as planning and urban design studies. Professor Gauchat also served as a consultant to governmental and non-governmental agencies, as well as large scale public and private projects.

Axumite Gebre-Egziabher is presently the Director of UN-HABITAT New York Office. Born in Axum, Ethiopia, she holds a Doctorate (PhD) in Development Planning, from the DPU, University of London, U.K. Prior to her present post, she worked as coordinator of the Special Session of the United Nations General Assembly for the review and appraisal of the implementation of the HABITAT Agenda (Istanbul + 5), from May 1999 – June 2002. In this role, she organized two global Preparatory Committee meetings, five regional meetings and three inter-agency meetings in close collaboration with the relevant United Nations agencies and other partners.

She provided substantive policy and strategic inputs to the success of the Special Session. July 1993 - April 1999, she worked as Senior Human Settlements Adviser, UN-HABITAT, covering a portfolio of nine countries in Africa, and a range of thematic areas (including reconstruction, housing, infrastructure, urban environment, urban poverty, etc). Dr. Gebre-Egziabher is author of some publications. Prior to joining UN-HABITAT, she was a consultant with international NGOs and the United Nations (1990-1993). She has also fifteen years of work experience in her government (1974 - 1989) marked by a progressive professional carrier that culminated at the position of Acting Head of the Department of Physical Planning and Research, National Urban Planning Institute in the Ministry of Urban Development and Housing.

Ali Riza Gülerman graduated from Middle East Technical University as an Urban Planner. He worked in the Ministry of Housing and Reconstruction in Turkey, as the coordinator of social housing in the municipality of Izmu, where he served in various capacities since 1984. He has written on Izmu municipality extensively.

Cheong Koon Hean is the Chief Executive Officer of the Urban Redevelopment Authority (URA), which is the national land use planning and conservation authority of Singapore. She is also concurrently the Deputy Secretary (Special Duties) in the Ministry of National Development. Mrs. Cheong was trained as an architect-planner, graduating as a university gold medalist in architecture (Australia) and a post graduate degree in urban development planning (University College, London). Mrs Cheong has had extensive experience in strategic planning, urban design, conservation and land sales. As CEO (URA), she was involved in the preparation of the Concept Plan; the long term land use and transportation plan which guides Singapore's development as well as the review of the Master Plan. Mrs. Cheong plays a significant role in the urban transformation of Singapore, particularly for key development areas such as the Marina Bay, the new city extension, and Jurong Lake District, a new regional centre. She has also chaired several Design Evaluation Panels for major development projects in Singapore and is the Chair of the jury panel for the President's Design Award for Architecture and Urban Design. As Deputy Secretary, she advises the Ministry of National Development on land use and planning policies, the property market, the government land sales programme and public housing policies.

Mrs Cheong is a board member of the Jurong Town Corporation, which is a major statutory board overseeing industrial and business parks development, as well as the National Heritage Board. She is also a Board Trustee of the International Urban Land Institute.

Ernest W. Hutton is co-chair of New York New Visions and President of Hutton Associates Inc., a private consulting firm specializing in planning, design, and strategic advisory services. A specialty of the firm is the use of public and stakeholder involvement as a central organizing tool for planning/ urban design/ transportation strategies. These techniques have been used by Ernest Hutton for the last fifteen years with his current firm Hutton Associates Inc., and were central to his work as a founding principal of Buckhurst Fish Hutton Katz from 1980-93, with Llewelyn-Davies International from 1974-79, and with other development or planning firms from 1970-74. Relevant projects include: community-based vision/ strategic planning in 1980, 1985, 1993 and recently for the Vision 2020 Plan for the City of Roanoke, Virginia, as well as similar plans for other communities around the country, including Providence Tomorrow.
Mr. Hutton trained as an architect and planner at Princeton and the University of Pennsylvania, and is a Fellow of the American Institute of Certified Planners, an Associate of the American Institute of Architects (Co-Chair of the AIA NY Planning/ Urban Design Committee), a participant in three 'R/UDAT' projects for the American Institute of Architects, a Fellow of the Institute for Urban Design, and a resource participant of the National Endowment for the Arts- sponsored Mayors' Institute on City Design. He was awarded the 2003 AIA NY Citation of Excellence in Outreach and the 2006 Harry B. Rutkins award for his work as Co-Chair of New York New Visions, a volunteer organization formed to advise on Lower Manhattan rebuilding following 9/11 and more recently responding to the Mayor's PlaNYC 2030. He is Assistant Vice President for Outreach on the AIA NY 2007 and 2008 Boards.

Baki Ilkin is currently the Permanent Representative of Turkey to the United Nations. Previously, Mr. Ilkin served as Ambassador, Deputy Under-Secretary for Bilateral Political Affairs, Turkish Ministry of Foreign Affairs (2001-2004); Ambassador of Turkey to the United States (1998-2001); Ambassador of Turkey to the Netherlands (1996-1998); Ambassador, Director General, Special Advisor to the Turkish Minister of Foreign Affairs (1993-1996); Ambassador of Turkey to Denmark (1990-1993); and Ambassador of Turkey to Pakistan (1987-1990). He also held the posts of Chief of Cabinet for the President of Turkey (1983-1987); Special Advisor to

the Minister of Foreign Affairs (1981-1983); Counselor at the Turkish Embassy to the United Kingdom (1977-1981); and Chief of Cabinet for the Turkish Minister of Foreign Affairs, as well as Chief of Section for Greece, Turkish Department of Political Affairs (1975-1977). In addition, Mr. Ilkin worked as First Secretary at the Embassy of Turkey to the Union of Soviet Socialist Republics (1974-1975); Third and First Secretary at the Turkish Embassy to Greece (1970-1974); and Third Secretary at the Department of Cypriot-Greek affairs, Turkish Ministry of Foreign Affairs (1969-1970). Mr. Ilkin studied Political Science at the University of Ankara.

Sarbuland Khan is the Executive Coordinator of the Global Alliance for ICT and Development. Prior to this assignment Mr. Khan was the Director for the Office for Economic and Social Council Support and Coordination of the United Nations Department of Economic and Social Affairs. Mr. Khan directed the preparation of the Ministerial meeting of the Economic and Social Council on ICT for development and has been responsible for its follow-up and the establishment of the United Nations Information and Communication Technology Task Force. Among his twenty-four years of professional experience within the United Nations, he has held positions as the Branch Chief for the Policy Coordination and Interagency Affairs, Chief for the Office of the Under-Secretary-General of the Department for International Economic and Social Affairs, and Special Assistant to Under-Secretary-General for Political Affairs and Decolonization. From 1979 to 1981, he served as delegate of Pakistan to the General Assembly of Economic and Social Council Prior to joining the United Nations, Mr. Khan was the Director for the Economic Coordination in the Ministry for Foreign Affairs of Pakistan, and served in embassies in Morocco, Brussels and The Hague. From 1967 to 1969, Mr. Khan was an Assistant Professor in the Department of Economics in Punjab University of Lahore and staff Economist at the Pakistan Institute of Development Economics in 1966-67. Mr. Khan has a Masters degree in economics, a post-graduate diploma in International Economic Relations from the Institute for Social Studies, The Hague. He has authored a number of publications and various articles in economics for books, journals, newspapers and magazines.

Habib Mansour the Permanent Representative of Tunisia to the United Nations. Prior to his current appointment, he was Ambassador of Tunisia to Nicosia (January 2006 to October 2007), and for part of that time, to Rome, from January 2005 to October 2007. From October 2002 to December 2004, he served as Tunisia's Permanent Representative to the United Nations in Geneva. Also in the foreign service of his country, Mr. Mansour served as

Charge de Mission, Head of the Human Rights Unit, to the Minister of Foreign Affairs (September 2001 to October 2002), and as Charge de Mission, Cabinet, to the Minister of Foreign Affairs (1992 to 1994). From 1990 to 2001, Mr. Mansour held several ambassadorial positions in the Tunisian Ministry of Foreign Affairs, including Ambassador to Spain (1997 to 2001); Ambassador to Chile (1995 to 1997); Ambassador to Argentina (1994 to 1997); and Ambassador to Zaire (now, Democratic Republic of the Congo) (1990 to 1992). He held several other positions in the Ministry of Foreign Affairs from the time he joined it in 1979, serving as Consul General to Belgium and Luxemburg (1988 to 1990); First Counselor at the Embassy of Tunisia in Prague (1984 to 1988); First Secretary and subsequently Counselor at the Embassy of Tunisia in Doha (1983 to 1984); Consul to West Berlin (1981 to 1982); and Administrator at the International Cooperation Department in charge of bilateral cooperation for the Arab World, Africa and Europe (1979 to 1980). Other posts in the service of his country from 1972 to 1978 included Head of Industrial Division at the National Office of Fisheries; Researcher at the National Center of Industrial Studies of the Ministry of National Economy; Head of Studies and Management Control Section of Studies and Development of Sousse Nord Company (Integrated Tourist Project); and Head of Studies and Planning Section of the National Office of Family Planning and Population.

James McCullar is the 2008 President of the AIA New York Chapter, which he leads under the theme "Architecture: Designs for Living". The theme reflects the broad range of building types and urban design that shape our neighborhoods and city, and represents our response to the Mayor's initiatives for PlaNYC2030. AIA New York is committed to a leadership role in this effort through programmes and exhibitions that focus on local and international design issues. He is the founder and principal of James McCullar & Associates, Architects in New York City. His work has been recognized by numerous awards, including the AIA Honor Award for Urban Design for the Jamaica Market in Queens, NY, and the AIA New York Pioneer in Housing Award. In 1999, Mr. McCullar was elected to the College of Fellows of the American Institute of Architects in recognition of his significant contributions to the profession for urban housing and community design.
Prior to forming his firm, Mr. McCullar worked with I.M. Pei & Partners and James Stewart Polshek. At Johansen & Bhavnani, he was responsible for Rivercross Cooperative housing at Roosevelt Island, NY. With HAUS International, he developed modular housing design for Qanat Kosar, a $200 million new town development in Iran which received a Progressive Architecture Citation for Urban Design & Planning. Mr. McCullar has been a visiting professor at the College of Architecture & Design at Kansas State University; and a member of the faculty at the New Jersey Institute of

Technology School of Architecture. Mr. McCullar has been recognized by the AIA New York Chapter's 2004 Harry B. Rutkins Award for Service to the Profession. As past Chair of the Housing Committee, he initiated a public housing forum at the Center for Architecture in response to Mayor Bloomberg's housing and planning initiatives. He is a founding Chair of the Chapter's internationally recognized Design Awards programme and has served on the Board of Directors and numerous committees. Mr. McCullar holds degrees from Rice and Columbia Universities, was a Fulbright Scholar for Urban Design in Paris, France, and is a Fellow of the Institute of Urban Design.

Léo Mérorès, Ambassador and Permanent Representative of the Republic of Haiti to the United Nations, is the 64th President of the Economic and Social Council. In January 2006, Mr. Mérorès was elected Vice-President of the Economic and Social Council representing the Group of Latin American and Caribbean. From April 2004 to March 2005, Ambassador Mérorès served as his country's Chargé d'Affaires at Haiti's Permanent Mission to the United Nations in New York. From April 2001 to March 2004, he served as a consultant on management and economic cooperation issues for several United Nations entities, including the Department of Economic and Social Affairs (DESA), United Nations Office for Project Services (UNOPS) and United Nations Development Programme (UNDP). Mr. Mérorès is a graduate from New York University with Master and PhD degrees in economics.

Martin Ney is currently the Deputy Permanent Representative of Germany to the United Nations in New York. In 1986 he started his diplomatic career, beginning in the Legal Department of the German Foreign Office; he then headed the Cultural and Press Section of the Embassy in Bangkok, Thailand, from 1988 – 1990. During the negotiations on the external aspects of German unification (the so-called "2+4-Negotiations"), he acted as legal advisor and chaired the legal committee in the final round. He then served as Executive Assistant to the State Secretary of the Foreign Office from 1991 till 1993. In 1993 he was posted to Washington DC as Counselor for Politico-Military Affairs before moving on to Tokyo in 1997. After one year as the Embassy's Deputy Head of the Economic Section he became Head of its Political Department (1998-2001). From 2001 till 2005 he was the European Correspondent of the Foreign Office, responsible for coordinating the German input into the EU Common Foreign and Security Policy. In 2005 he was appointed Ambassador and Senior Deputy High Representative for Bosnia and Herzegovina in Sarajevo, mainly in charge of political reforms.

From June 2006 till July 2007 he served as Commissioner for the United Nations, Human Rights and Humanitarian Aid of the German Foreign Office. Since August 2007 he has been Deputy Permanent Representative to the United Nations in New York.

Suha Özkan was born in Ankara, Turkey. He studied architecture at the Middle East Technical University (METU) in Ankara, and theory of design at the Architectural Association in London. Dr. Özkan has undertaken extensive research on the theory and history of architecture, design, vernacular form, and emergency housing, and has published numerous articles and monographs. At METU, he taught architectural design and design theory, became associate dean of the faculty of architecture and vice-president of the university in 1979-1982. He taught and lectured extensively in North America, Europe, Central-, South-, and Southeast Asia, and throughout the Middle East. He has served as a jury member for many architectural competitions, and as an external examiner for diploma and doctoral assessments at the schools of architecture of the universities of Paris, Lausanne, Zurich, York, Birmingham and Trondheim. In 2000, he served as a member of the jury for the architectural competition for the Martin Luther King, Jr., National Memorial in Washington, D.C. He was a member of juries of many competitions in Geneva, Barcelona, Bahrain, Saudi Arabia and Dubai.
With the Aga Khan Award for Architecture in Geneva, Dr. Özkan served as the Deputy Secretary General from 1983 to 1990. He was the Secretary General between 1990 and 2006. On behalf of the Aga Khan Trust for Culture, Dr. Özkan has organised two important international architectural competitions, for the Revitalization of Samarkand, Uzbekistan (1991), and the New Museum of Islamic Arts in Doha, Qatar (1997) Doha Corniche Urban Design Competition (2002). He was the President UIA's XXII Congress to be held in Istanbul during 2005. He holds honors from United States, Uzbekistan, Azerbaijan, Kazakhstan, Bulgaria, Russia, Syria, India and ex-Yugoslavia. In 2004, American Institute of Architects awarded him with the Medal of Honorary Fellow (Hon. F.A.I.A) and Russian Union of Architects gave him their Gold Medal. Ozkan has authored more than 200 articles and monographs. Presently he is the Founding Chairman of World Architecture Community (WAC) a Geneva and Istanbul based international consultancy company.

Samuel Moreno Rojas obtained his law degree at the University of El Rosario in Bogotá, Colombia and a Masters Degree in Public Administration

at the John F. Kennedy School of Government, Harvard University. He has specialized in Andean Pact Legislation at the School of Lawyers; in the Litigious Administrative Code at the Pontificia Universidad Javeriana; in the Administrative Contracts Statute in the University of El Rosario, and Administrative Law at the University of Los Andes in Bogotá. He was elected Senator of the Republic of Colombia for four consecutive constitutional legislative periods: 1991-1994, 1994-1998, 1998-2002 and 2002-2006. As Senator, he actively participated in discussions on the topics of education, telecommunications, infrastructure, transport, utilities, culture, science and technology. He was Chair of the Senate Peace Commission and Vice-president of the Senate. He led the debate of the communications law that today allows the Colombian population to communicate from and to all cities, towns and rural communities of the country. He gave impulse to cellular phone communication, securing expansion plans of telephone lines to cover the most remote municipalities, and strengthened open and long-distance university programmes. He was the author of several environmental projects that improve the quality of life of our citizens, such as the preservation of the water basins, the mitigation of contamination and the creation of the Forest Bank and the Solar Energy Bank. As the Mayor of the City of Bogotá, D.C., he is implementing the government programme called A POSITIVE BOGOTÁ: TO LIVE BETTER. He seeks to guarantee the enjoyment of a modern, prosperous, equal, cooperative, just and participative city.

Jonathan Rose founded Jonathan Rose Companies LLC in 1989, a multi-disciplinary real estate development, planning and consulting firm that currently manages over $1.5 billion of work, much of it in close collaboration with not-for-profits, towns and cities. Jonathan F.P. Rose's business, not-for-profit and public policy work all focus on creating a more environmentally and socially responsible world. A thought leader in the Smart Growth, affordable housing and green building movements, Mr. Rose is a frequent speaker and writer on subjects ranging from 'Transformation Planning and Development' to 'Climate Change'. Mr. Rose has received widespread media attention from CNN to the New York Times.

The firm's innovative development, planning, new construction, conversion and historic preservation work has won awards from a wide range of notable organizations including: the National Trust for Historic Preservation, the Natural Resources Defense Council of the United Nations, Global Green and the American Institute of Architects.

Mr. Rose is a Trustee of several organizations including: the Urban Land Institute and co-chair of its climate and Energy Committee; the Natural Resources Defense Council (NRDC); and Enterprise Community Partners. He chairs the Metropolitan Transit Authority's Blue Ribbon Sustainability

Commission. Mr. Rose also serves on the Board of the Brooklyn Academy of Music (BAM) and the American Museum of Natural History. He is also co-founder of the Garrison Institute, with his wife, Diana. Mr. Rose was the founder of Gramavision Records, producing over 75 jazz and new music recordings of artists. He graduated from Yale University in 1974 with a B.A. in Psychology, and received a Masters in Regional Planning from the University of Pennsylvania in 1980.

Mona Serageldin is the Vice President of the Institute for International Urban Development. She is also an Adjunct Professor of Urban Planning at the Harvard University Graduate School of Design where she has been a member of the faculty since 1985. She has over 30 years of professional and academic experience in the United States and abroad, and has worked on projects sponsored by UNDP, UN-HABITAT, the World Bank, the Inter-American Development Bank and various foundations in Eastern Europe, the Middle East and North Africa, Sub-Saharan Africa, Central Asia, Latin America, and the Caribbean. Dr. Serageldin specializes in local development, strategic planning, social inclusion, policy and programme assessment and municipal finance of urban development. She has worked on: decentralization and municipal finance of urban development; participatory processes in urban planning and management; land regularization and infrastructure services; migration patterns and the impacts of remittances on land and housing markets; microcredit in housing and infrastructure; community based development; and revitalization of the historic urban fabric.
Her approach to urban planning and management emphasizes participation, strategy performance and institutional capacity building. She leads the Institute's involvement in specialized networks including the United Nations Economic and Social Council, with which the Institute has special consultative status, UN-HABITAT's Best Practices and Local Leadership Programme, the Microcredit Summit, and the Cultural Heritage and Development Networks and its participation in the Coalition for Sustainable Urbanization.

Nikhil Seth is currently the Director of the Office for Economic and Social Council Support and Coordination. Prior to joining DESA, he was Secretary of Economic and Social Council and the United Nations General Assembly Second Committee for three years. He joined the United Nations in 1993 as Special Assistant and Chief of Office to the Under-Secretary-General in the Department of Economic and Social Affairs (DESA). He was a delegate to and helped in the organization of various United Nations conferences and summits including the Rio Summit on Environment and Development, the Copenhagen Summit on Social Development, the Monterrey Conference on

Financing for Development, the Mauritius Conference on Small Island Developing States and the United Nations World Summit. He joined the Indian diplomatic service in 1980 after studies in economics and a brief stint as a lecturer in economics at the University of Delhi. His diplomatic assignments included Geneva, DRC, Central African Republic, Gabon and Equatorial Guinea, as well as the Permanent Mission of India, New York. In his current assignment, he guided the work of the Economic and Social Council (Economic and Social Council) strengthening, leading up to the 2007 Substantive Session where the Council has implemented several of the new mandates given to it, including for Annual Ministerial Review of the Millennium Development goals and launch of the Development Cooperation Forum.

Dick Sullivan is currently the Director of Enterprise Marketing, EMC Corporation. Dick is an eight year veteran of EMC, responsible for Marketing Enterprise Solutions, as well as Data Center Energy and Efficiency. He has devoted considerable time to education and research on the energy topic and is a frequent spokesperson for EMC. He has presented at a number of industry events, including the Advisory Committee to the Congressional Internet Caucus, The National Conference on Data Center Infrastructure and the Technology CEO Council. Dick has more than twenty years of IT experience including Enterprise Systems, Consulting, Technology Education, Services and Marketing. Prior to joining EMC, Dick was Director of Business Development at Polaris Service and managed IT services at Harvard University. Dick is a US Air Force veteran, a graduate of the University of Massachusetts and Harvard University.

Anna Tibaijuka is a Tanzania-born agricultural economist who has had a distinguished career in public service. This culminated in her appointment in 2002 as Under-Secretary General of the United Nations, making her the first African woman to hold so senior a position within the United Nations. The appointment recognized her success and leadership as Executive Director of the United Nations Human Settlements Programme (UN-HABITAT) at the level of Assistant Secretary -General beginning in 2000. UN-HABITAT aims to provide shelter and sustainable settlements for all the world's poor and provides policy and technical advice for countries in achieving this goal. Mrs. Tibaijuka holds a doctorate of science in agricultural economics from the Swedish University of Agricultural Sciences, Uppsala. From 1993 to 1998 she was Associate Professor of Economics at the University of Dar-es-Salaam during which time she was a member of the Tanzanian delegation to a number of meetings on international development issues. She was then

appointed as a special coordinator for the least developed countries for the United Nations Conference on Trade and Development in which she was involved in trade negotiations between those countries and the World Trade Organization.
Mrs. Tibaijuka has taken a particular interest in the role and rights of women, notably as founding Chairwoman of the Tanzanian National Women's Council, which promotes the rights of women on land, inheritance and social services issues. She has published five books and numerous articles on international development issues.

Thomas K. Wright is the Executive Director of Regional Plan Association (RPA), the nation's oldest private regional planning organization. Projects he has directed include the Draft Vision Plan for the City of Newark (2006) and A Region at Risk: The Third Regional Plan for the New York–New Jersey–Connecticut Metropolitan Area (1996). He participated in planning and organizing "Listening to the City," the historic electronic town hall forum on the World Trade Center site held in July, 2002 at the Jacob Javits Convention Center. Prior to taking his current position at RPA, Tom Wright was the Deputy Executive Director of the New Jersey Office of State Planning, where he coordinated adoption of the New Jersey State Development and Redevelopment Plan (2001) and wrote the Executive Summary of the State Plan. Prior to that, he was Director of Regional Plan Association's New Jersey office and Governance Campaign. From 1991 to 1993, he was Coordinator of the award-winning Mayors' Institute on City Design, sponsored by the National Endowment for the Arts.
Mr. Wright lectures widely on growth management, regional planning and redevelopment, and rebuilding New York City after 9/11. He is a Visiting Lecturer in Public Policy at the Woodrow Wilson School at Princeton University. From 1998 to 2006 he was an Adjunct Assistant Professor at the Columbia University Graduate School of Architecture, Planning and Preservation. He has served as Associate Faculty for the Lincoln Institute of Land Policy, an Adjunct Professor at the New Jersey Institute of Technology School of Architecture, and a Resource Team member for the Governors Institute on Community Design.

Sha Zukang is the United Nations Under-Secretary-General for Economic and Social Affairs and he heads the Department of Economic and Social Affairs, which is responsible for the follow-up to the major United Nations Summits and Conferences, and services the Economic and Social Council and the Second and Third Committees of the General Assembly. He chairs

the United Nations Executive Committee on Economic and Social Affairs. He is a graduate of Nanjing University, China.

A career diplomat, Mr. Sha Zukang has varied experience with multilateral organizations and international conferences. He was Coordinator of the Like-Minded Group of the Commission on Human Rights and the Human Rights Council from 2004 to 2007, Chairman of the Preparatory Committee and Chairman of the Committee of the Whole, United Nations Conference on Trade and Development (UNCTAD) 11th session from 2003 to 2004, President of the Trade and Development Board, 50th Session of UNCTAD, Chairperson of the Government group of the Governing Body of the International Labour Organization from 2002 to 2003, and member of the United Nations Secretary-General's Advisory Board on Disarmament matters from 1994 to 1999. In addition, he has served as president, vice president, chairperson, coordinator and expert in many international conferences in the field of arms control, trade, intellectual property, social affairs, and telecommunications, among others.

Prior to assuming his present position in the United Nations, Mr. Sha Zukang held a number of posts in the diplomatic service of the People's Republic of China. He established the Department of Arms Control of the Ministry of Foreign Affairs of China and became its first Director-General. Mr. Sha Zukang participated, as the representative of the Chinese government, in the negotiation and review of many important international treaties on arms control and disarmament.

His postings in diplomatic missions abroad included London, Colombo, New Delhi, New York and Geneva. In the Ministry of Foreign Affairs, he served variously as Counselor of the Chinese Mission to the United Nations, Deputy Director-General of the Department of International Organizations and Conferences, Ambassador for Disarmament Affairs, Director-General of the Department of Arms Control, Ambassador and Permanent Representative of the Chinese Mission to the United Nations Office at Geneva. In his 37 years of diplomatic service, Mr. Sha Zukang's portfolios have covered a range of fields including economic and social affairs, human rights and humanitarian affairs, politics, and security.

Roxana Zyman is a consultant to the United Nations Department of Economic and Social Affairs, where she has worked on ICT and development, sustainable urbanization, good governance and conflict prevention. She wrote technical papers on participatory governance and consolidating state legitimacy through citizen engagement in transition for the United Nations Global Forum on Reinventing Government (Vienna, 2007) and for the World Public Sector Report in 2006. She was part of the team who prepared the UNDESA-GAID books: "The Common Humanity in the Information Age: Principles and Values for Development" (2007) and

"Foundations of the Global Alliance for ICT and Development" (2007), edited by Aliye P. Celik.

Roxana Zyman was instrumental in the preparation of the United Nations Forum on Sustainable Urbanization in the Information Age (New York, 04/2008) and she was part of the team who organized the United Nations Global Forum on Access and Connectivity (Kuala Lumpur, 05/2008) and the Global Forum on Youth and ICT for Development (Geneva, 09/2007).

Previously, she was an expert in international affairs for the Office of the President of Romania and a diplomat of Romania to the United Nations in New York, participating in expert group meetings and high-level meetings at the United Nations General Assembly, Economic and Social Council and the United Nations Security Council.

Roxana Zyman holds a Master in International Relations (University of Amsterdam, The Netherlands), a Master in Public Administration (State University of New York, Albany, NY, USA), and a BA in Sociology (University of Bucharest, Romania). She is working on her PhD dissertation "Challenges for Governance in the Context of Globalization: A Mixed Method Study of National and Local Governance from a Global Perspective" (University of Bucharest). She was a recipient of a Ron Brown Fellowship (US Department of State, 1998-2000) and two Ron Brown Alumni Grants (US Department of State, 2002 and 2003).

ANNEX 4

UNITED NATIONS MILLENNIUM DEVELOPMENT GOALS

Goal 1 Eradicate extreme poverty and hunger

Global poverty rates are falling, led by Asia. But millions more people have sunk deep into poverty in sub-Saharan Africa, where the poor are getting poorer.
Progress has been made against hunger, but slow growth of agricultural output and expanding populations have led to setbacks in some regions. Since 1990, millions more people are chronically hungry in sub-Saharan Africa and in Southern Asia, where half the children under age 5 are malnourished.

Goal 2 Achieve universal primary education

Five developing regions are approaching universal enrolment. But in sub-Saharan Africa, fewer than two thirds of children are enrolled in primary school. Other regions, including Southern Asia and Oceania, also have a long way to go. In these regions and elsewhere, increased enrolment must be accompanied by efforts to ensure that all children remain in school and receive a high-quality education.

Goal 3 Promote gender equality and empower women

The gender gap is closing — albeit slowly — in primary school enrolment in the developing world. This is a first step towards easing long-standing inequalities between women and men. In almost all developing regions, women represent a smaller share of wage earners than men and are often relegated to insecure and poorly paid jobs. Though progress is being made, women still lack equal representation at the highest levels of government, holding only 16 per cent of parliamentary seats worldwide.

Goal 4 Reduce child mortality

Death rates in children under age 5 are dropping. But not fast enough. Eleven million children a year — 30,000 a day — die from preventable or treatable causes. Most of these lives could be saved by expanding existing programmes that promote simple, low-cost solutions.

Goal 5 Improve maternal health

More than half a million women die each year during pregnancy or childbirth. Twenty times that number suffer serious injury or disability. Some progress has been made in reducing maternal deaths in developing regions, but not in the countries where giving birth is most risky.

Goal 6 Combat HIV/AIDS, malaria and other diseases

AIDS has become the leading cause of premature death in sub-Saharan Africa and the fourth largest killer worldwide. In the European countries of the Commonwealth of Independent States (CIS) and parts of Asia, HIV is spreading at an alarming rate. Though new drug treatments prolong life, there is no cure for AIDS, and prevention efforts must be intensified in every region of the world if the target is to be reached.

Malaria and tuberculosis together kill nearly as many people each year as AIDS, and represent a severe drain on national economies. Ninety per cent of malaria deaths occur in sub-Saharan Africa, where prevention and treatment efforts are being scaled up. Tuberculosis is on the rise, partly as a result of HIV/AIDS, though a new international protocol to detect and treat the disease is showing promise.

Goal 7 Ensure environmental sustainability

Most countries have committed to the principles of sustainable development. But this has not resulted in sufficient progress to reverse the loss of the world's environmental resources. Achieving the goal will require greater attention to the plight of the poor, whose day-to-day subsistence is often directly linked to the natural resources around them, and an unprecedented level of global cooperation. Action to prevent further deterioration of the ozone layer shows that progress is possible.

Access to safe drinking water has increased, but half the developing world still lack toilets or other forms of basic sanitation. Nearly 1 billion people live in urban slums because the growth of the urban population is outpacing

improvements in housing and the availability of productive jobs.

Goal 8 Develop a global partnership for development

The United Nations Millennium Declaration represents a global social compact: developing countries will do more to ensure their own development, and developed countries will support them through aid, debt relief and better opportunities for trade. Progress in each of these areas has already begun to yield results. But developed countries have fallen short of targets they have set for themselves. To achieve the Millennium Development Goals, increased aid and debt relief must be accompanied by further opening of trade, accelerated transfer of technology and improved employment opportunities for the growing ranks of young people in the developing world.

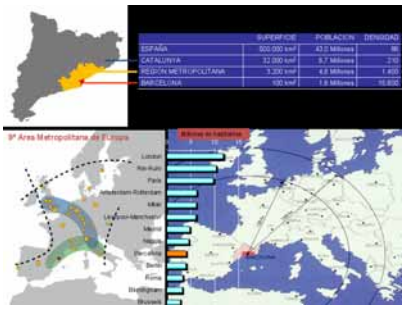
Source: The Millennium Development Goals Report 2005[2]
For more information on the MDGs, please visit:
http://www.un.org/millenniumgoals/.

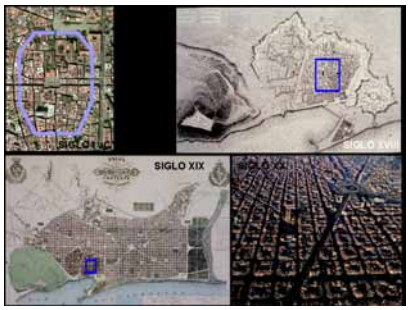
[2] http://unstats.un.org/unsd/mi/pdf/MDG%20Book.pdf

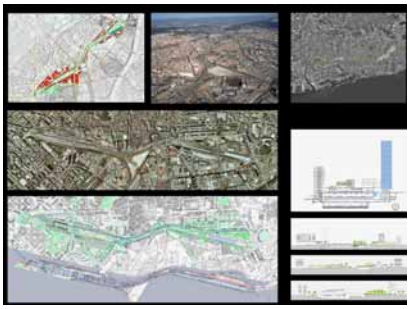
ANNEX 5

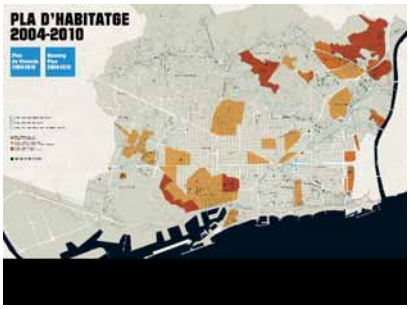
VISUALS FROM THE PRESENTATIONS

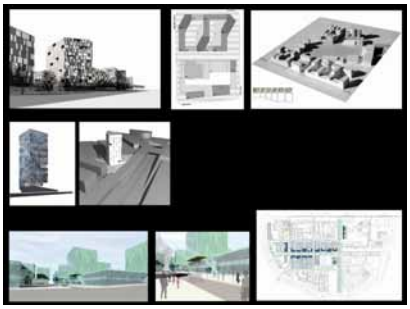
BARCELONA

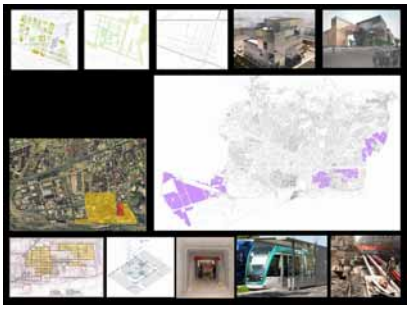




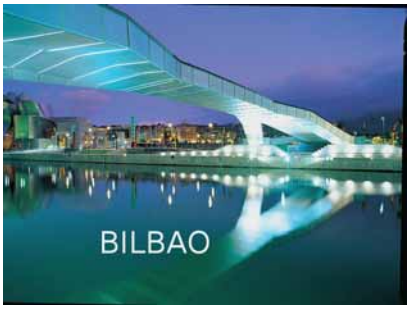



PLA D'HABITATGE
2004-2010

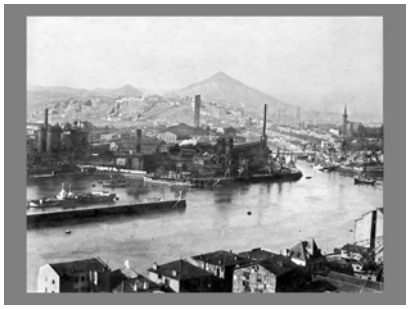




BILBAO


BILBAO

BILBAO METROPOLITAN AREA
900.000 habitants
BILBAO
380.000 habitants
18 km



SUSTAINABLE
URBAN REGENERATION
- Reuse of the existing city
- Density
- Mixed uses
- Global approach
- New tools (Bilbao Ría 2000)
Problems transformed into oportunities

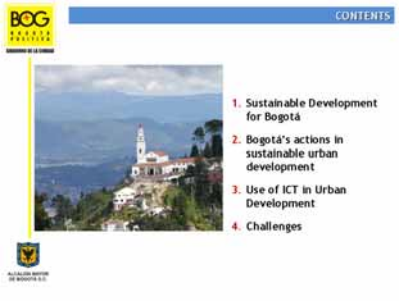
A new transport system was created based upon the new Metro

Metro was designed by Norman Foster

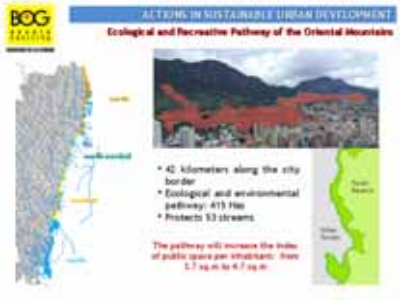
November 1995
Passengers (millions)
1996 31
2007 85
The importance of quality in public works

BOGOTA

SUSTAINABLE URBAN DEVELOPMENT IN THE INFORMATION AGE


CONTENTS
1. Sustainable Development for Bogotá
2. Bogotá's actions in sustainable urban development
3. Use of ICT in Urban Development
4. Challenges

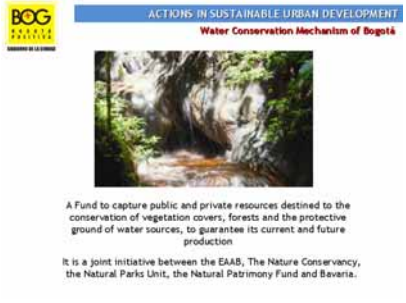
WHAT IS SUSTAINABLE DEVELOPMENT FOR BOGOTÁ?
Current and future needs for public and social services were identified
MASTER PLANS
Urban, rural and regional territory was recognized and valued
1. Guarantee and restoration of rights
2. Equity and inclusion in the territory
3. Secure and high quality infrastructure
4. Monitoring, evaluation and participation
5. Regional integration and environmental balance
6. Corrective effects of current development impacts


ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Ecological and Recreative Pathway of the Oriental Mountains
• 42 kilometers along the city border
• Ecological and environmental pathway: 419 Has
• Protects 93 streams

ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Bicentennial Park
A public walking space that physically, environmentally and economically integrates the north and south sides of the 26th avenue

ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
District Recycling Program
• Separation of waste at the source
• Selective route
• Recycling parks and centers
• Social inclusion of the recycling population
Tons/day
Domiciliary waste 6.000
Current collection of recyclable material 6
Potential collection 1.800

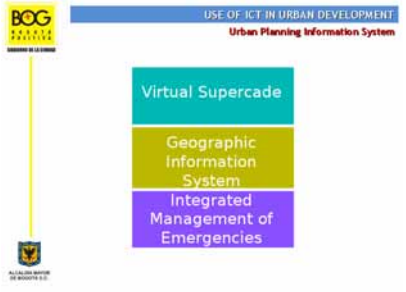
ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Bogotá's Water dynamic and pressure on the resource
Agriculture
Sewer system
Residential
Social Infrastructur e
Mining
Industrial


ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Water Conservation Mechanism of Bogotá
A Fund to capture public and private resources destined to the conservation of vegetation covers, forests and the protective ground of water sources, to guarantee its current and future production
It is a joint initiative between the EAAB, The Nature Conservancy, the Natural Parks Unit, the Natural Patrimony Fund and Bavaria.

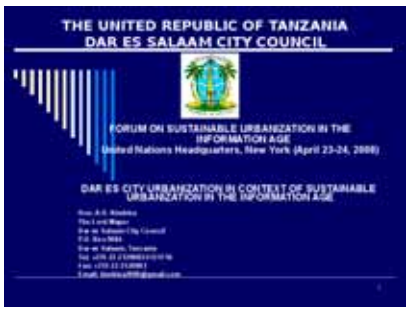
ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Program for the Recovery of the Bogotá River
The Bogotá River is the main water source of the Bogotá Savanna, with a length of 370 kilometers. It is the main receiver of the waste left by Bogotá and the municipalities along the savanna.
For its recovery, more than 1 billion pesos have been assigned to continue the construction of the main and secundary sanitary sewer system, with 10 interceptors, a retention tank and an elevation station.
Additionally, we will advance in the recovery of the wetlands and in the organization of the river basins

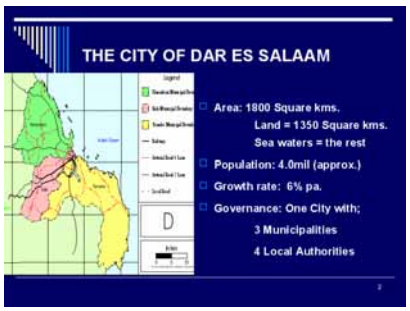
ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
Quality of Air and Sustainable Development
Modernization of the Quality of Air Monitoring Network.
Ten-year plan for the decontamination of the City's Air.
Pact with Ecopetrol for a better quality of Diesel.
Reconversion of vehicles for use of cleaner fuels.
Regional Comittee on Air Quality - Capital Region.

ACTIONS IN SUSTAINABLE URBAN DEVELOPMENT
First Bogotá Metro Line
The Metro Project will transform the city's mobility, making it safe and efficient and in harmony with the environment, because it will be designed to use clean technology.
With the structuring of the Integrated Public Transport System, the city's vehicles will be organized and renewed. Public vehicles that cause contamination will be taken out of service.


USE OF ICT IN URBAN DEVELOPMENT
Urban Planning Information System
Virtual Supercade
Geographic Information System
Integrated Management of Emergencies

Dar-Es-Salam


THE UNITED REPUBLIC OF TANZANIA
DAR ES SALAAM CITY COUNCIL
FORUM ON SUSTAINABLE URBANIZATION IN THE INFORMATION AGE
United Nations Headquarters, New York (April 23-24, 2008)
DAR ES CITY URBANIZATION IN CONTEXT OF SUSTAINABLE URBANIZATION IN THE INFORMATION AGE


THE CITY OF DAR ES SALAAM
Area: 1800 Square kms.
Land = 1350 Square kms.
Sea waters = the rest
Population: 4.0mil (approx.)
Growth rate: 6% pa.
Governance: One City with;
3 Municipalities
4 Local Authorities

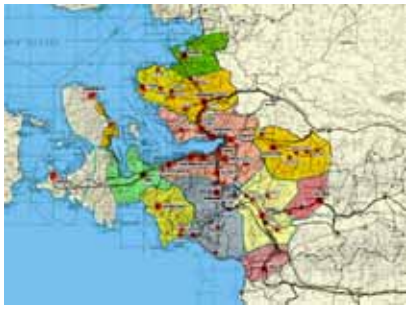
Mushrooming of Informal and unorganized small-scale businesses

The City of Dar es Salaam Today
Improved urban infrastructure and services

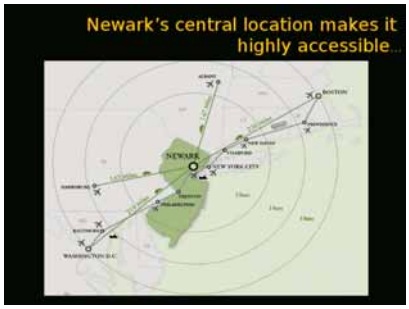
Urban Transportation problems
Traffic Congestion
Commuting problems

Upgrading of squatter settlements
Before Upgrading
After Upgrading

İZMIR



NEWARK


Newark's central location makes it highly accessible...

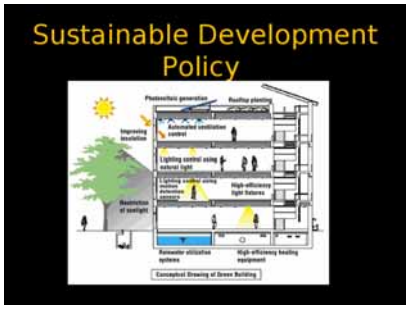
...especially given its proximity to New York City

Newark
Global Transportation Hub
Center of Higher Education
Resurgent Business Climate
Cultural Marketplace

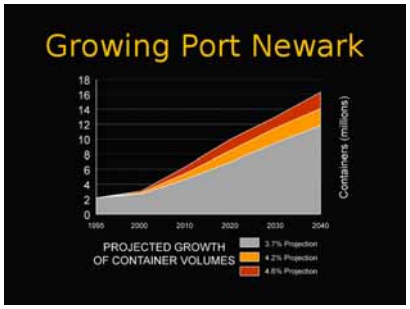
Public Buildings

Parks and Open Space

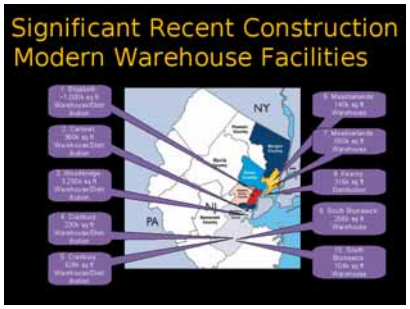
Sustainable Planning
Newark


Sustainable Development Policy

Sustainable Development


Growing Port Newark
18
16
14
12
10
8
6
4
2
0
1995
2000
2010
2020
2030
2040
Containers (millions)
PROJECTED GROWTH OF CONTAINER VOLUMES
3.7% Projection
4.2% Projection
4.6% Projection

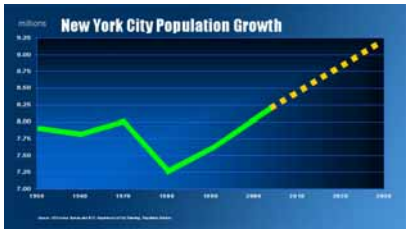
Insufficient Vacant Available Land Surrounding the Port
The City has initiated a redevelopment planning process designed to assemble land for new distribution and production businesses
Six (6) redevelopment sites = 158 acres
Current jobs totals = 160 employees
Projected job totals with redevelopment action = 2,370 jobs


Significant Recent Construction Modern Warehouse Facilities
NY
NJ
PA

Proposed Port Support Freight Village

NEW YORK

planYC
A GREENER, GREATER NEW YORK


New York City Population Growth

Labuhd

Water

Energy

5 key areas for
energy efficiency

SWITCH TO ONLINE
BANK STATEMENTS
AND BILL PAYING.

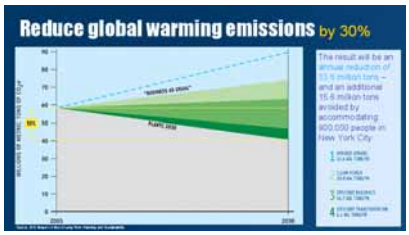
Transportation

Transportation
for millions more New Yorkers
Achieve "State of Good Repair"
transportation system

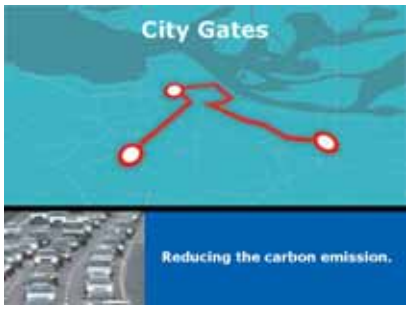
$30 Billion

Congestion Pricing
Northern boundary at 60th Street
$8 for cars / $21 for trucks
6am-6pm weekdays
Short-term transit enhancements

Air Quality


Reduce global warming emissions by 30%
The result will be an annual reduction of 33.9 million tons – and an additional 15.6 million tons avoided by accommodating 900,000 people in New York City
2005
2030

PORTO ALEGRE



Social and
Environmental Project
Reaching the level of 92%
of the sewage treated.

Portal de Gestão
Management Portal
Control of management and integrated
management, by programs.

Local Solidary Governance
Agreements of Local Governance,
creating communities of initiative and project,
with autonomy to build their own future.

Local Solidary Governance
Agreements of Local Governance,
creating communities of initiative and project,
with autonomy to build their own future.

SINGAPORE

Strategies for
Sustainable Urban Development
in Singapore
Mrs CHEONG KOON
HEAN
Chief Executive Officer

C H I N A
PACIFIC
OCEAN
SINGAP
ORE
INDIAN
OCEAN
700 km²
4.6 million population

Over the Years
1960: US$702 million GDP, 1.6 million population
2007: US$161.3 billion GDP, 4.6 million population
1960s
1980s
2000

Singapore Today
MODERN
BUILT HERITAGE
MULTI-CULTURAL
TROPICAL
ISLAND

Land Requirements
Housing
Airport
Commerce
Port
Industry
Water treatment &

Concept Plan
1971
1991
2001

High Growth Industries

Master Plan

- Statutory landuse plan
- Guides development over 10-15 years
  - allowable land use, plot ratio and height

Public Consultation

A Compact and Liveable City

- High-density urban developments

A Compact and Liveable City

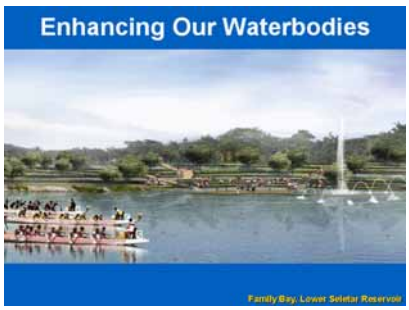
- Ample provision of facilities and amenities

City in a Garden

Park Connector Network

Skyrise Greenery

Enhancing Our Waterbodies


Enhancing Our Waterbodies
Family Bay: Lower Seletar Reservoir

Protecting Our Nature Areas

Conserving our Built Heritage

Leisure Plan

A Public Transport Oriented City

Management of Car Use

Responding to Climate Change

Intensification of Land Use around Transit

Water Management
Sources of Water
2. Local Catchments
3. Imported Water
4. NEWater
5. Desalinated Water

Deep Tunnel Sewerage System

Waste Management
Semakau Landfill

Green Building Design
BCA GREEN MARK

Sustainable Public Housing

ICT – Supports Planning Processes
• Use of GIS/ 3D visualisation models
•Use of transport modelling software

Harnessing Infocomm Technology
• Intelligent Nation 2015 - ICT Master Plan

TUNIS

MINISTÈRE DE L'INTÉRIEUR & DU DÉVELOPPEMENT LOCAL
MUNICIPALITÉ DE TUNIS
Forum on sustainable Urbanization in the information age
Rafik AOUALI
Directeur de l'urbanisme de la ville de Tunis
Avril 2008

Tunis Capitale

La Tunisie par les images

Plan d'aménagement
de la commune de Tunis
Superficie de la ville de Tunis :13 270 ha.
15 arrondissements municipaux.
60 élus municipaux
Parc zoologique
Parcs urbains
5 cimetières (musulmans, israélite chrétiens orthodoxe.)
Des zones industrielles
De l'habitat (individuel, semi collectif, collectif)
Bureaux et services
CUF : 0,5 -3,5

Les « oukalas »
ou l'habitat social collectif anarchique

Conditions d'habitat
Insalubrité, promiscuité, entassement de la population dans des conditions inhumaines.
62% des ménages habitant les «oukalas» occupaient 1 pièce.
Dégradations importantes des structures horizontales et verticales mettant en cause la stabilité du bâtiment.

Opération de relogement

Opération de relogement

Réhabilitation

Réhabilitation lourde :

- Réfection et/ou consolidation des structures,
- mise hors d'eau du bâtiment par la reprise des canalisations et l'étanchéité des terrasses,
- réaménagement des locaux, installation de sanitaires.

Réhabilitation légère : consolidation de certains planchers et entretien courant.

Ré affectation de monuments

Réhabilitation privée

Stratégie d'extension urbaine de la ville de Tunis

Aménagement du lac Nord sur une superficie de 150 ha comprenant:

- **De l'habitat individuel, et semi collectif,**
- **Des commerces bureaux et services**
- **Une zone d'animation et de culture de 53ha.**
- **Un parc urbain de 106 ha avec un terrain de golf**