



# UN HABITAT

FOR A BETTER URBAN FUTURE

GLOBAL REPORT ON HUMAN SETTLEMENTS 2009



## FACT SHEET

### CITIES & CLIMATE CHANGE

- The impact of climate change on cities and towns, as well as the reduction of dependency on fossil fuels are among the foremost challenges to urban management today in creating sustainable cities. The creation of sustainable cities requires the minimized use of non-renewable resources; the use of renewable resources; and for cities to stay within the absorptive capacity of local and global waste absorption limits. Measures taken to attain these objectives provide the link between the natural and built environments, or, put another way, between the **green and brown agendas**.

### GREEN & BROWN AGENDAS

- A significant dilemma for urban planners and politicians trying to implement sustainable urban development is how to integrate different concerns of the green and brown agendas.
- **The Green Agenda** refers to the natural environment: it is about the natural systems of the local, bioregional and global ecosystems that cities and other settlements use as services for open space, biodiversity, water provision, waste dispersion, health air, and reliable climate, food and fibre.
- **The Brown Agenda** concerns the human environment. The agenda is essential for making a city work; for a healthy and liveable environment; and for creating the human and economic opportunities that have been driving cities. This agenda is about optimizing land use; engineering of waste systems; minimizing energy consumption and transport; reducing use of materials; and creating an efficient built environment.
- The rapid growth of cities in the past 50 years has meant that the brown agenda of providing buildings and transport, while coping with waste, has often overwhelmed many cities, especially in the developing world. Brown functions of a city often degrade its green resources, unless city intervenes through processes such as urban planning and environmental management. This is no longer feasible and cities need to slash their impact on the natural environment, and ensure that bioregional and global ecosystems are shielded from degradation.

KEY INNOVATIONS ARE OCCURRING GLOBALLY TO SYNERGISE THE GREEN AND BROWN AGENDAS. THEY ARE AS FOLLOWS:

### DEVELOPMENT OF RENEWABLE ENERGY

This enables cities to create healthy environments using minimum fossil fuels. Some urban areas are now partly powered by renewable energy techniques and technologies, from the region to the building level.

- **Harnessing solar, wind, hydro and geothermal power for urban use:** Urban planning is necessary to create the infrastructure needed to support renewable sources of power at the scale necessary to help power a city.
- **Transport:** electric vehicles can play a critical role in enabling renewable to build up as a much higher proportion of the urban energy grid.
- **Fossil fuels:** The move away from fossil fuels requires serious localizing and local sourcing of building materials.
- **Striving for carbon-neutral cities:** The key objective of this trend for "carbon-neutral cities" is to ensure that every home, neighbourhood and business is carbon neutral. Carbon-neutral cities are able to replace fossil fuels, thereby providing a basis for the regeneration of the ecology.
  - **Minimizing carbon footprints:** This needs to become a feature of whole neighbourhoods and even complete cities if the world is to move to post-carbon cities.
  - **Increasing photosynthetic spaces as part of green infrastructure:** Growing energy and providing food and materials locally is becoming part of urban infrastructural development.
  - **Development of distributed power and water systems:** this aims to shift cities from large centralized power and water systems to small-scale and neighbourhood-based ones.
  - **Newer forms of power and water are increasingly smaller scale:** This will ensure a reduction in the use of water. Distributive systems are being tried in cities such as Malmo (Sweden) and Toronto (Canada).
- The urban eco-efficiency agenda includes the "cradle to cradle" concept for the design of all new products and new systems such as industrial ecology, where industries share resources and wastes like an ecosystem.

## PLANNING SUSTAINABLE CITIES

## SUSTAINABLE TRANSPORT

Increasingly, more energy efficient cities neighbourhoods and regions are being planned, by offering walk-able transit-oriented options and renewable energy powered vehicles. Such cities have been able to reduce use of fossil fuels, as well as through reduced urban sprawl and reduced dependence on car-based infrastructure. The agenda for large cities now is to have more sustainable transport options to reduce traffic while reducing greenhouse gases by 50 per cent at least by 2050, in line with the global agenda set through the Intergovernmental Panel on Climate Change (<http://www.ipcc.ch>).

## INFRASTRUCTURE PRIORITIES & TRANSIT PLANNING

- In many cities, modern rail is now seen as the solution to curbing the increased use of the private car. Rail is also important because it has a density-inducing effect around stations, which can help provide the centres so critical to overcoming car dependency; since rail is run on electricity, it also reduces the vulnerability to oil. If a city makes quality transit a priority, an exponential decline in car use in cities could lead to 50 per cent less passenger kilometres driven in cars.
- Beijing, the Chinese capital, has the world's largest metro. India is building a modern metro in the capital, Delhi. The 250-km electric rail will enable 60 per cent of the city to be within 15 minutes' walk of a station. In Perth, Australia, a 172-km modern electric rail system has been built over the past 20 years: the newest section of the railroad runs 80km to the south and has been able to attract 50,000 passengers a day. In contrast, a bus system carried 14,000 a day.

## STREET PLANNING & MOBILITY MANAGEMENT

- As cities build freeways, more car traffic follows. On the other hand, if transit traffic is emphasised, it could enable streets to become an important part of the sustainable transport system. Streets can be designed to favour pedestrian and cycle traffic. Whenever this is done, cities become more attractive and business friendly.
- Streets are used for many purposes, not just maximizing vehicle flow. The emphasis is on achieving efficiency by maximizing people movement, not cars, and on achieving a high-level of amenity and safety for all street users. Gender needs to be considered in all stages of public transport planning. For example, many developed countries' recognition of women as the main users of public transport and the multipurpose nature of their trips has led to some innovative design solutions. Many stations and terminals in cities (such as Tokyo, Japan; and Maryland, USA) now contain grocery stores, childcare centres and improved public toilets.
- San Francisco (in the United States) removed the Embarcadero Freeway from its waterfront district in the 1990s after the Loma Prieta earthquake. The freeway has been rebuilt as a friendlier tree-line boulevard involving pedestrian and cycle spaces. Seoul, the South Korean capital, has removed a large freeway from its centre that has been built over a major river.

## CITIES WITHOUT SLUMS

- "Cities without slums" is one of the most important goals of urban planning in developing countries today.
- Slums pose a significant threat to the green agenda, at the same time; the brown agenda is seriously compromised for those living in slums. There are two trends in resolving the phenomenon of slums: first, is upgrading of existing slums; second, is adoption of urban and housing policies that prevent the emergence of slums.
- Slum upgrading consists of improving security of tenure and installing new or improving existing infrastructure and services up to satisfactory levels, especially water supply, sanitation and waste management. This includes storm water drainage, electricity, access roads and footpaths.

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