



## DISASTER *at a glance*

### Coping with risk:

#### Disaster preparedness and response strategies

Cities around the world are magnets for natural and human-made disasters, and at the forefront of efforts to reduce disaster risk. Past urban civilizations have collapsed because of overstressing the ecological basis of their economies, leading to political conflict and terminal decline. The ongoing global environmental change is likely to further exacerbate existing risks, while the interconnectivity of urban centers in today's "global village" facilitates the spread of economic impacts through transport and finance networks. The UN-HABITAT report *Enhancing Urban Safety and Security: Global Report on Human Settlements 2007* examines the dynamic relationship between urbanization and disaster risk, and highlights some of the world's most successful disaster preparedness and response strategies.

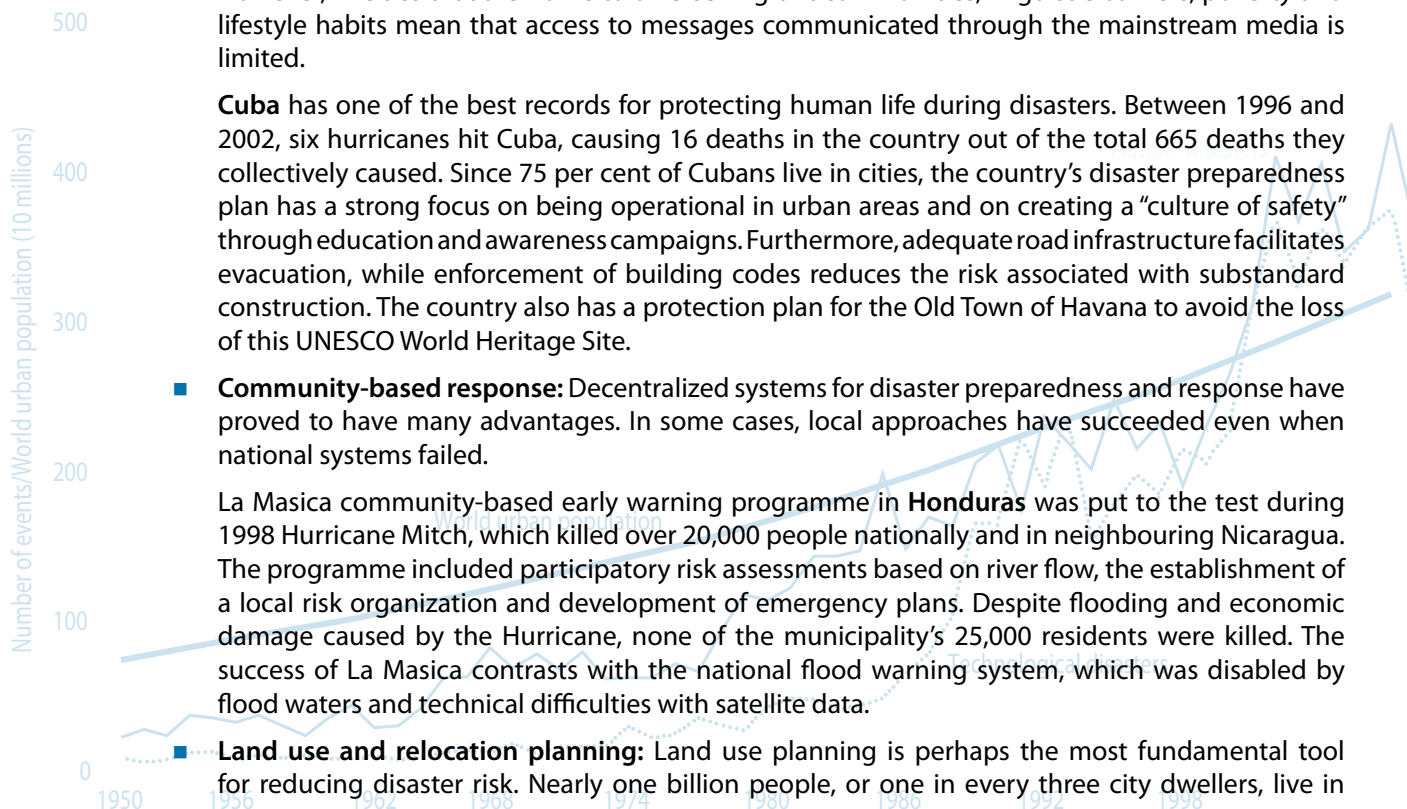
- **Hazard mapping:** Many cities in middle- and high-income countries have national hazard maps covering volcanic, earthquake, flood, wind and landslide hazards. In the last decade, the number of cities with seismic hazard maps has increased. Several of India's populous cities, including the capital, **New Delhi**, are located in zones of high seismic risk. National data on seismic hazard has been used to identify 38 cities with populations of 500,000 or more that have become the focus of the Government of India-UNDP Disaster Risk Management Programme. The programme aims to raise awareness of earthquake risk at the community level and build local capacity.
- **Early warning programmes:** Urban settlements offer opportunities as well as challenges for early warning. On the one hand, the density of settlements and availability of multiple communication channels indicate that messages of early warning and preparedness would diffuse quickly. However, in cities that are home to diverse migrant communities, linguistic barriers, poverty and lifestyle habits mean that access to messages communicated through the mainstream media is limited.

**Cuba** has one of the best records for protecting human life during disasters. Between 1996 and 2002, six hurricanes hit Cuba, causing 16 deaths in the country out of the total 665 deaths they collectively caused. Since 75 per cent of Cubans live in cities, the country's disaster preparedness plan has a strong focus on being operational in urban areas and on creating a "culture of safety" through education and awareness campaigns. Furthermore, adequate road infrastructure facilitates evacuation, while enforcement of building codes reduces the risk associated with substandard construction. The country also has a protection plan for the Old Town of Havana to avoid the loss of this UNESCO World Heritage Site.

- **Community-based response:** Decentralized systems for disaster preparedness and response have proved to have many advantages. In some cases, local approaches have succeeded even when national systems failed.

La Masica community-based early warning programme in **Honduras** was put to the test during 1998 Hurricane Mitch, which killed over 20,000 people nationally and in neighbouring Nicaragua. The programme included participatory risk assessments based on river flow, the establishment of a local risk organization and development of emergency plans. Despite flooding and economic damage caused by the Hurricane, none of the municipality's 25,000 residents were killed. The success of La Masica contrasts with the national flood warning system, which was disabled by flood waters and technical difficulties with satellite data.

- **Land use and relocation planning:** Land use planning is perhaps the most fundamental tool for reducing disaster risk. Nearly one billion people, or one in every three city dwellers, live in



informal settlements or slums, in cramped and hazardous conditions. Rapid urbanization poses new challenges, as planners are often unable to keep up with mapping new settlements, let alone planning land-uses for them. Where there is political commitment and dedicated resources, slums can be successfully brought into formal planning programmes. If risks are too high, or disaster has already struck, re-housing can be an option. Better land-use policies, particularly in overpopulated or heavily eroded areas, can also save lives.

- **Factoring in climate change:** The IPCC expects climate change to affect urban populations through rising sea levels, increased hazard from tropical cyclones, flooding, landslides, heat waves and cold spells as well as challenges of urban water quality and storage. In addition to adaptation, there is a great scope for mitigation activities through improved urban design – especially since cities are the largest emitters of greenhouse gases. The Cities for Climate Protection Campaign has enlisted 650 cities worldwide each of which has demonstrated willingness to integrate climate mitigation into its decision-making processes.
- **Building-back-better:** The building-back-better agenda crystallizes the aim of building development into post-disaster work so that vulnerability is reduced and life chances enhanced as a result. The tension between speed of delivery and the desire for inclusive and participatory decision-making is a theme that runs throughout the integration of development into response and reconstruction. Innovative planning for shelter reconstruction in **Kashmir** following the 2005 South Asian earthquake included not only cash for work, where survivors were paid to clear land, but also cash for shelter. Affected people were provided with building materials and then paid for construction work. The rush to build before the coming winter was made sustainable through designs which could be upgraded to more permanent structures over time.
- **Reconstruction for risk reduction:** Reconstruction is a period when urban land rights are often contested or fought over by competing interests. It is not uncommon for those with only usufruct or customary rights, or for the poor or tenants, to lose claims over high-value land, often leading to speculation and evictions. Reconstruction should become an opportunity to improve the economic, physical and social infrastructure and support the asset base of individuals and households at risk. Moreover, disaster survivors prefer to be engaged in reconstruction than be made passive recipients of aid.

Reconstruction planning for **Aceh, Indonesia**, one of the hardest-hit areas during the 2004 Indian Ocean Tsunami, recognized land titles as the cornerstone on which communities rebuild their homes and livelihoods. Under the reconstruction project, some 7,700 land parcels have been titled, many for the first time ever, since less than 20 per cent of the land owners in Aceh had legal titles prior to the tsunami.