

URBAN ENVIRONMENT DISASTERS

Shadley Lombard/Topham Picturepoint/UNEP



the expense of the environment, undermining ecological defences against extreme events. Faced with this onslaught, our atmosphere is warming at a dramatic rate, raising sea levels, and leading to more extreme weather events such as El Niño and La Niña. While El Niño is a cyclical event, it has become more intense and frequent in the last 20 years as a consequence of global warming. Unless action is taken to reverse this trend, small islands and small-island states may partly or entirely disappear. The possibility of flooding in coastal cities such as Tokyo, Shanghai, Sydney, Bangkok, Hong Kong, Hamburg and Venice will become more likely, necessitating billions of US dollars on sea defences.

With almost half the world's population now living in cities, one could assume that this would provide an additional measure of protection from nature's hazards. Unfortunately, many who live in unplanned settlements on land vulnerable to floods, landslides or contaminated with industrial wastes - especially the poor - are becoming ensnared in disasters. Under such conditions, risk is not a matter of choice, but a daily reality that simply has to be borne.

The impact of disasters is much more severe in countries with poorly developed preparedness, mitigation, prevention and response capacities. The first step in improving disaster preparedness should be developing and enforcing appropriate norms and by-laws for land-use planning and building on the basis of hazard and vulnerability assessments. Recent earthquakes in India and Turkey, where newly-built high-rise buildings had a higher rate of structural

Over the past four decades, the number of human-made and natural disasters has tripled, with 70 percent of the most costly events ever occurring during this past decade alone.

Almost 2 billion people have been affected by disasters during the 1990s, of which over 80 percent lived in Asia. Experience from this past decade has proven that if countries are to protect their social and economic assets, increased efforts are required at all levels to mitigate against emerging risks.

Increasing risk and vulnerability

There is mounting evidence that our ever-increasing impact upon the environment is changing the way our atmosphere functions. Much economic growth has been at

Re-engineering the role of the Emergency Manager – New Zealand

New Zealand is part of the 'Circum-Pacific Ring of Fire', a highly seismic and volcanic area. Natural disasters have a significant impact on New Zealand, with annual flood losses amounting to US\$ 75 million and earthquake losses topping US\$ 6 million. Over the past four years, the government has implemented legislative and policy reforms resulting in: (a) broadened responsibility for local authority emergency managers, including developing community capacity for risk identification, vulnerability reduction and disaster resilience; (b) decentralized Emergency Management Groups (EMG) comprising neighbouring local authorities, emergency services and utility companies to ensure that the EMG strategy is focussed on the local level, while enhancing cooperation and coordination of resources across the country; and (c) a comprehensive risk management approach, integrating disaster management into environmental and community management at national and local levels.



failure than older ones, indicate that neither building and planning norms were realistic, nor were construction control services functioning adequately. In regions subject to high risks of disaster, measures must be taken to upgrade and improve the resistance of buildings and basic infrastructure to reduce disaster damage and casualties. Absence of plans to coordinate post-disaster response efforts greatly reduce the effectiveness of such activities.

After disasters, the influx of national and international resources and heroic efforts to rescue and care for survivors feature prominently in the news. But once the humanitarian crisis fades, governments and local communities often find themselves without adequate capacity or resources to manage the rehabilitation and rehousing of disaster victims. With the exception of highly industrialized countries, most countries need foreign financial assistance to deal with such eventualities. Post-disaster mitigation measures often include the development of elaborate city plans, stricter construction standards and upgraded infrastructure schemes. However, many of these remain largely unimplemented.

Post-disaster responses by national governments, NGOs and UN agencies have been characterized by the implementation of a series of rapid rehabilitation projects including water and sanitation, housing, irrigation, food-security measures and micro-finance. But such funding and efforts can only be effective if efficient management structures can be created. Poorly designed rehabilitation projects can have unforeseen consequences, including an increase in overall vulnerability. For example, resettling communities affected by flooding can shift or actually increase their vulnerability through inadequate water and sanitation facilities, lowered economic potential, and insecure rights to land and tenure, especially for women, as was the case with recent floods in China and the earthquake in India.

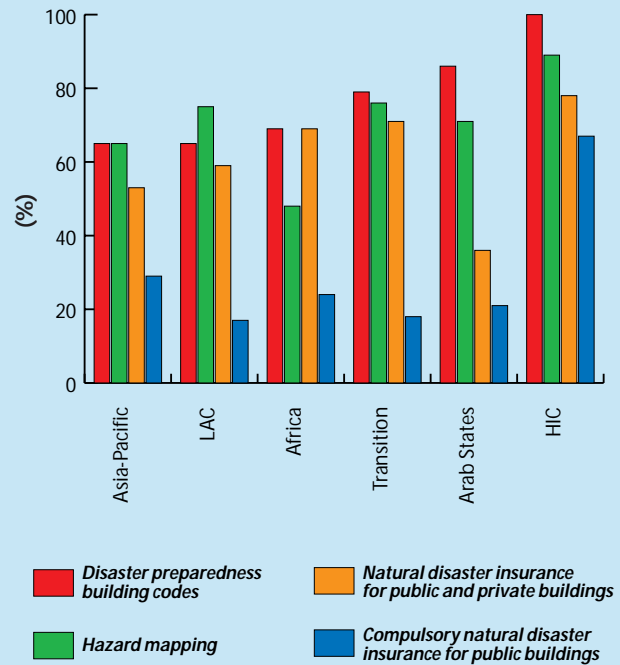
Policy Implications

Despite considerable scientific and technical advances, well-planned initiatives to reduce overall vulnerability to a wide-variety of hazards have yet to emerge in many developing countries. One of the reasons is that risk management is largely preoccupied with relatively pragmatic concerns of establishing standards for settlement planning. Although the importance of scientific, technical and planning tools cannot be denied, such comparatively limited approaches will continue to provide disappointing results, especially if underlying capacities within economic, social and political spheres are not adequately addressed.

Mitigation - reducing the actual and potential effects of hazards - is essentially a local concern. Communities are the first to experience and react to a disaster. Promoting a culture of prevention among local authorities and communities must therefore be the central focus of any national and local disaster management strategy. Central to this effort should be the mechanisms and tools for enforcing existing building codes and zoning by-laws, as well as developing better tools for disaster management. Associations such as Local Authorities Confronting Disasters and Emergencies (LACDE) that support exchange of technical know-how are important initiatives in this regard. Recent trends encouraging insurance coverage against disasters for dwelling units, or even making it compulsory as recently enacted in Turkey, inevitably faces affordability constraints by the poor, or reluctance of insurance firms to extend their coverage to high risk regions. Lastly, there is a need for improved information which quantifies the costs of not undertaking preparedness and mitigation activities. This type of information is crucial in creating the public interest and indispensable political will to make cities safer places for all.

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Disaster prevention and mitigation instruments in cities



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Reduction of seismic risk - Uzbekistan

The earthquake-prone city of Tashkent developed a natural disaster action plan and, for the first time, registered success in its earthquake preparedness. More than 20 types of city services, eight designing and research institutions, and several ministries and public organizations participated in the project, supporting the city government in mitigating the effects of probable disaster

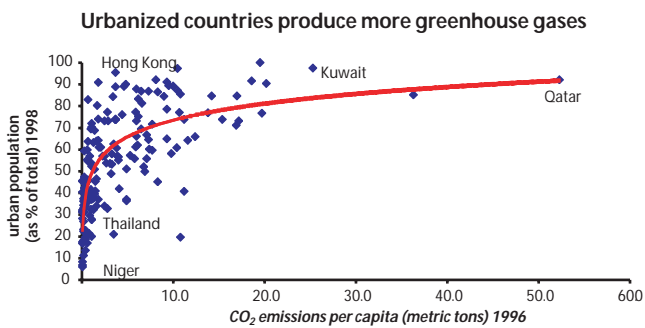
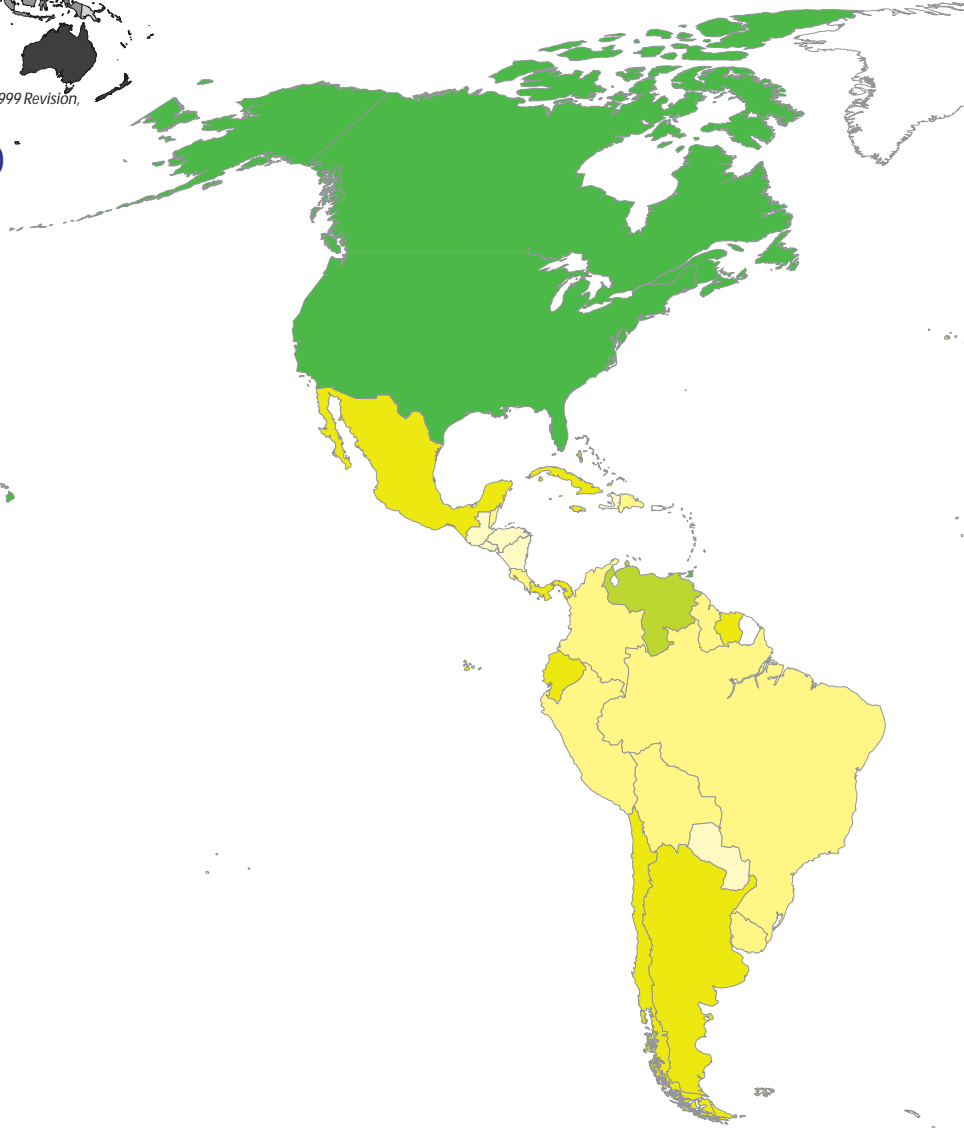
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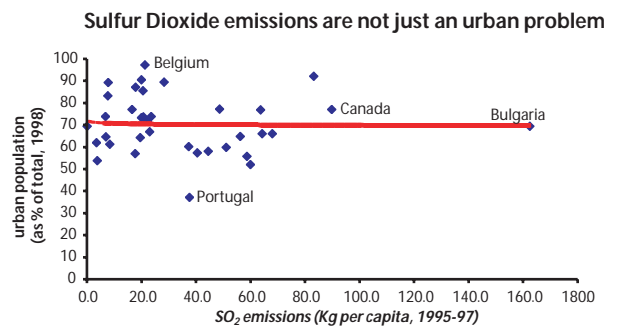
MAPS



Urbanization Rates, 2000

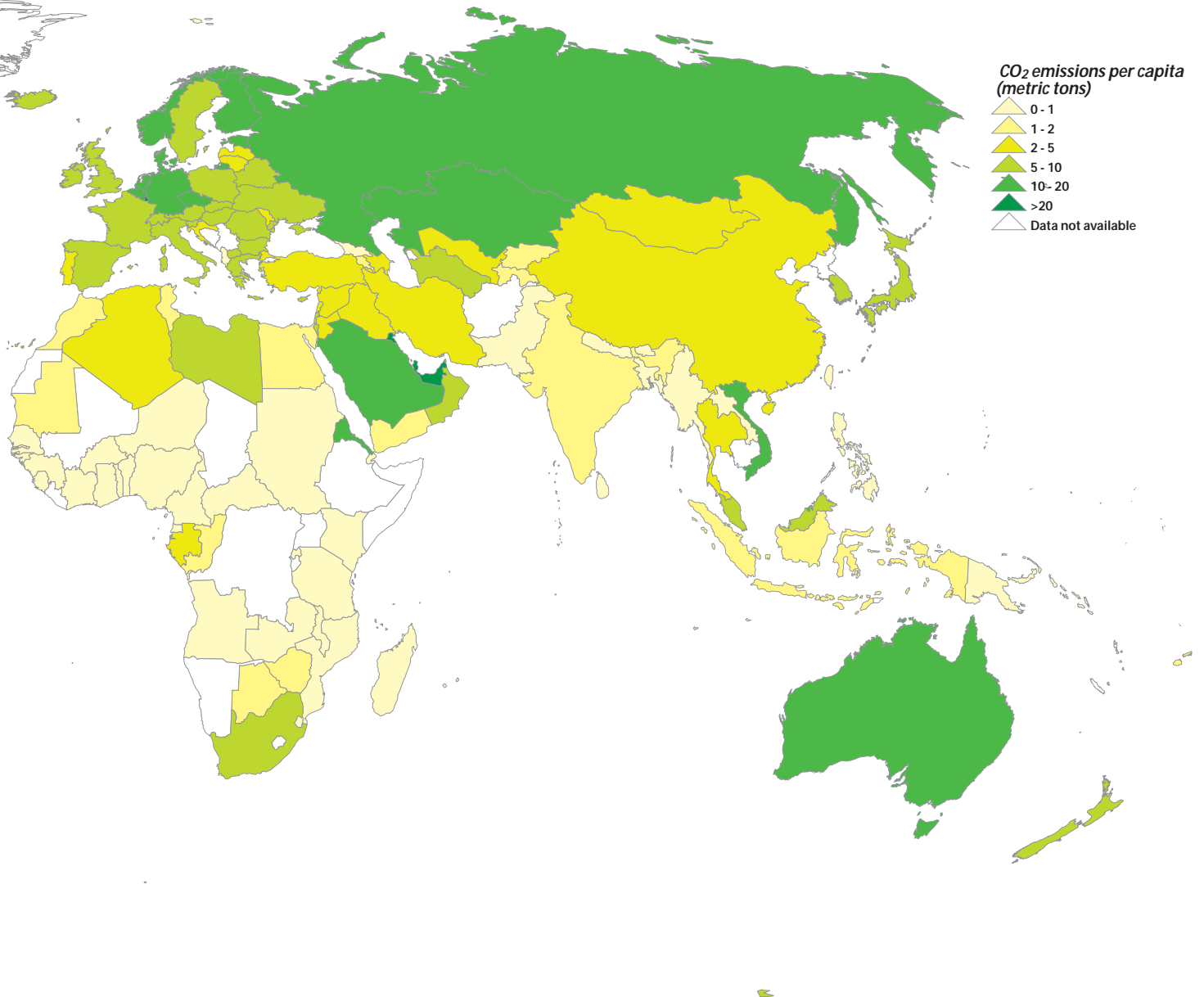


Source: UNDP, Human Development Report 2000

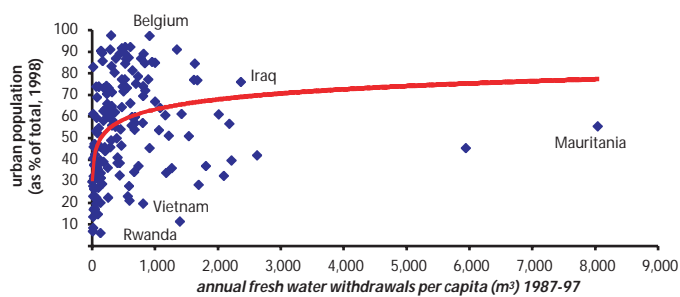


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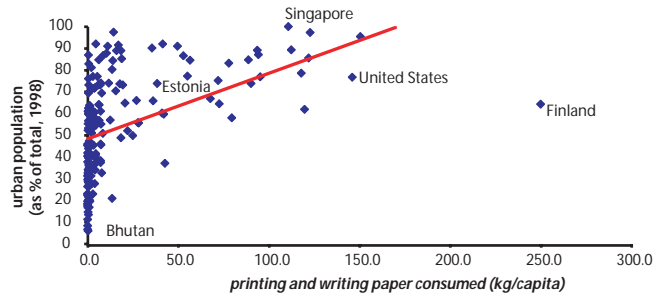
Source: UNDP, Human Development Report 2000 (1996 data)



Fresh water withdrawals are not correlated to urbanization



Urbanized countries consume more paper



Source: UNDP, Human Development Report 2000