

Environment and Urbanization

<http://eau.sagepub.com/>

From everyday hazards to disasters: the accumulation of risk in urban areas

L Bull-Kamanga, K Diagne, A Lavell, E Leon, F Lerise, H MacGregor, A Maskrey, M Meshack, M Pelling, H Reid, D Satterthwaite, J Songsore, K Westgate and A Yitambe

Environment and Urbanization 2003 15: 193

DOI: 10.1177/095624780301500109

The online version of this article can be found at:

<http://eau.sagepub.com/content/15/1/193>

Published by:



<http://www.sagepublications.com>

On behalf of:



[International Institute for Environment and Development](#)

Additional services and information for *Environment and Urbanization* can be found at:

Email Alerts: <http://eau.sagepub.com/cgi/alerts>

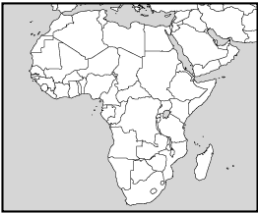
Subscriptions: <http://eau.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Apr 1, 2003

[What is This?](#)



From everyday hazards to disasters: the accumulation of risk in urban areas

L Bull-Kamanga, K Diagne, A Lavell, E Leon, F Lerise, H MacGregor, A Maskrey, M Meshack, M Pelling, H Reid, D Satterthwaite, J Songsore, K Westgate and A Yitambe

Since there is no room to give the addresses of all the authors, just their e-mails are given here.

Liseli Bull-Kamanga (bullkamanga@urbaninsaka.org), Khady Diagne (rup@enda.sn), Allan Lavell (allan_lavell@yahoo.com), Esteban Leon (Esteban.Leon@unhabitat.org), Fred Lerise (lerise@ud.co.tz), Helen MacGregor (helenmac@enviro.uct.ac.za), Andrew Maskrey (andrew.maskrey@undp.org), Manoris Meshack, Mark Pelling (pelling@liverpool.ac.uk), Hannah Reid (hannah.reid@iied.org), David Satterthwaite (david@iied.org), Jacob Songsore (j_songsore@hotmail.com), Ken Westgate (ken.westgate@undp.org) and Andre Yitambe (andreyita2000@yahoo.com)

Dr. Acho-Chi who contributed a paper but could not obtain a visa to get into Kenya can be reached at cachochoi@yahoo.com

1. This workshop on "Disasters, Urban Development and Risk Accumulation in Africa" took place in Nairobi, 8–10 January 2003, and was funded by UNDP and organized in collaboration with IIED.

SUMMARY: *Many disasters take place in urban areas, affecting millions of people each year through loss of life, serious injury and loss of assets and livelihoods. Poorer groups are generally most affected. The impact of these disasters and their contribution to poverty are underestimated, as is the extent to which rapidly growing and poorly managed urban development increases the risks. But urban specialists do not see disasters and disaster prevention as being within their remit. At the same time, few national and international disaster agencies have worked with urban governments and community organizations to identify and act on the urban processes that cause the accumulation of disaster risk in and around urban areas. This paper summarizes the discussions from a workshop funded by UNDP on the links between disasters and urban development in Africa, highlighting the underestimation of the number and scale of urban disasters, and the lack of attention to the role of urban governance. It notes the difficulties in getting action in Africa, since the region's problems are still perceived as "rural" by disaster and development specialists, even though two-fifths of its population live in urban areas. It emphasizes the need for an understanding of risk that encompasses events ranging from disasters to everyday hazards and which understands the linkages between them – in particular, how identifying and acting on risks from "small" disasters can reduce risks from larger ones. It also stresses the importance of integrating such an understanding into poverty reduction strategies.*

I. INTRODUCTION

URBAN POPULATIONS FACE a wide range of risks – from the everyday hazards to health posed by poor living conditions to the large-scale disasters that can result in heavy loss of life and property. Specialists tend to be concerned with one end or the other of this spectrum. Not enough attention has been given to the links between them nor to the smaller-scale disasters that lie in the middle of the spectrum. A recent workshop in Nairobi on disasters and risk accumulation in urban areas in Africa⁽¹⁾ provided the opportunity to discuss this issue, both in general terms and specifically as it affects cities in Africa. This report is based on the presentations and discussions at this workshop.

II. THE DISTANCE BETWEEN URBAN SPECIALISTS AND DISASTER SPECIALISTS

DISASTER SPECIALISTS INCREASINGLY have sought to understand how and why people come to be at risk from disasters. From this emerges

an understanding of how to reduce these risks and people's vulnerability to disaster events. However, it is difficult to get the institutions responsible for disaster response to make this shift, in part because many of the measures to reduce disaster risk require collaboration with other agencies and engagement with low-income communities. For urban areas, this means working with different departments of city and municipal governments and with the many community-based organizations and local NGOs engaged in urban development. It also means working collaboratively to tackle complex issues such as the fact that much urban development occurs without provision for basic infrastructure (such as storm and surface drainage and roads); that so many urban dwellers live in large, dense, informal or illegal settlements (usually with high risks of accidental fires); and that so many urban settlements develop on sites at high risk from disasters (for instance, on floodplains or steep hillsides).

Urban specialists have also recognized the need for more attention to the life- and health-threatening risks to which urban populations are exposed, but their interest has been largely directed towards more routine risks. They increasingly recognize the considerable health burden that most low-income urban dwellers face from everyday hazards because of inadequate provision for water, sanitation and drainage, poor quality and overcrowded housing, and poor management of pollution and road traffic. This includes a recognition of the contribution of inadequate health care and emergency services (for instance, to fight fires and rapidly treat those who suffer acute illness or serious injury). But, in general, urban specialists have shown little interest in disasters – these are seen as occasional events that demand responses from specialist agencies.

In addition, urban specialists and disaster specialists have developed their understandings of risk and vulnerability separately. Most urban specialists see vulnerability in terms of the high risks to people's livelihoods from external shocks or stresses and/or a lack of assets or other resources that permit them to cope with these. This leads to an interest in what resources and skills increase people's resilience – i.e. their capacity to avoid or cope with shocks and stresses. It is still common for urban specialists' work on vulnerability to ignore environmental health hazards, especially from infectious and parasitic diseases, despite the fact that these cause or contribute to most of the ill-health, injury and premature death amongst large sections of the urban population. Some attention may be given to the more common urban disasters (for instance, floods) but, in general, the focus is more on such stresses as rising prices or falling incomes or losses in livelihoods, which are not considered disasters.

Disaster specialists focus on two kinds of vulnerability. The first is people's vulnerability to disasters – the extent to which they are at risk (living on a floodplain, having a house unable to withstand floods) and the extent to which they can cope with the impacts (through such provisions as health care and property insurance). The second is the vulnerability of key institutions or systems such as power supplies, water supplies, and hospitals and emergency response networks to disasters.

Thus, urban specialists tend to concentrate on life-, health- or livelihood-threatening risks that are constantly present or common in the urban environment; and disaster specialists concentrate on life- or health-threatening risks from occasional or exceptional disaster events. Yet, both have drawn attention to the need to work together and to draw on each others' insights and skills. Urban specialists have long noted how common it is for low-income urban communities to live on sites at risk from floods, landslides

Box 1: The work of *La Red* in Latin America

La Red (*La Red de Estudios Sociales en Prevención de Desastres en América Latina* – the Network of Social Studies for the Prevention of Disasters in Latin America) is a network of individuals and institutions in Latin America that have worked collectively to document the scale and range of disasters in the region, their impacts and their underlying causes. From this has developed a particular interest in disaster prevention and in reducing the vulnerability of populations. This network has also pioneered a range of tools and methods for work in this area, including participatory methods for working with low-income groups and community organizations in identifying and acting on disaster risks. It has also promoted such key themes as “disasters are not natural”, “the importance of small and medium disasters which most national and international disaster records ignore”, “the intrinsic relation between risk, development and environment” and “the importance of developing local management capacities to reduce risk”.

La Red developed in 1992 from a workshop with 15 participants drawn from seven different nations and different institutions; now it has members in 15 nations, drawn from many different disciplines and including a mix of researchers and practitioners. During the first few years, it focused mainly on documenting the scale and nature of disasters (including highlighting the number of “small” disasters) and their impacts; more recently, much of its work has been on developing instruments for intervention. *La Red* developed computer software (the *Desinventar* database) to allow documentation and analysis of disasters, and this is now widely used in the region and elsewhere. Local training courses and manuals and training modules to support them have been developed. All of this was done with limited funding: individual members obtained funding for work that contributed to the network’s outputs, and meetings were organized with costs kept to a minimum. It is a reminder of how important personal commitments and personal relations are to successful networks.

SOURCE: This is drawn from a presentation to the workshop by Allan Lavell; for more details on *La Red*, see <http://www.desenredando.org/>; for more details of the *Desinventar* software, see <http://www.desinventar.org/desinventar.html>

or mudslides. Disaster specialists have questioned the way in which “disasters” are defined, and have pointed to the very large impact of disasters that are too small to be classified as “disaster events” in international or national disaster registers. Official disaster registers only include earthquakes, floods, hurricanes, fires, industrial or transport accidents and other events where 10 or more people are killed, 100 or more are seriously injured, or where the damage is sufficient for international agencies to be called in. But there are also many “small and medium” disaster events where (say) 3–9 persons are killed, 10–99 seriously injured, or very serious damage is done to people’s homes or production systems, but which do not qualify for calling in help. Perhaps the number of people killed, injured and impoverished by these small and medium disasters is larger than that from large disasters; this was certainly found to be the case in research undertaken in several nations in Latin America by the network *La Red* (Box 1) and in Africa by *Periperi* (Box 2).

The studies undertaken by members of *La Red* in Latin America have highlighted the particular importance of including a consideration of “small” disasters in measures to identify disaster risk reduction strategies. This is not only because their total impact may be larger than events classified as disasters but also because:

- their number, territorial spread and impact is increasing rapidly;
- small events may graduate in time to larger events, as population and vulnerability increase in the areas close to the sources of the hazards, and as hazards grow in size and potential intensity; and
- developing an ability to intervene to prevent small disasters, or limit their damaging impacts, can also serve to develop a capacity to do so for larger events.

Box 2: Periperi (Partners enhancing the resilience of at risk communities)

Periperi stands for “partners enhancing resilience for people exposed to risks”. The network was established to encourage governments and international agencies to address disaster risks through the integration of disaster risk principles into sustainable interventions. Its secretariat, the Disaster Mitigation for Sustainable Livelihoods Programme (DIMP) at the University of Cape Town, has helped coordinate some 60 NGOs in nine southern African countries. It is an informal, non-hierarchical network, with members drawn from many different disciplines who have worked collaboratively in four different core network projects, namely: rainwater harvesting, urban vulnerability mapping, disaster loss inventories, and courses and training programmes. *La Red’s* computer software (the Desinventar database) inspired the development of the MANDISA (Mapping and Monitoring of Disaster Incidents in South Africa) database, which now profiles over 12,500 incidents in Cape Town over ten years. The database is planning to go live on GIS in June 2003. *Periperi* has published three books through Oxfam, namely *Learning about Livelihoods, Urban Vulnerability: Perspectives from Southern Africa and Risk, Sustainable Development and Disasters*. Furthermore, it has achieved policy changes in terms of rainwater harvesting in Zambia and Zimbabwe and has helped shape urban policy which now differentiates between urban poverty and urban vulnerability. Other current initiatives include an assessment of the role of local institutions in strengthening at-risk communities in Mozambique and Malawi. This project, funded by FAO (UN), involves a range of local research institutions in both countries.

SOURCE: This is drawn from a presentation to the workshop by Helen MacGregor; for more information see <http://www.egs.uct.ac.za/dimp/>

III. INTEGRATING AN UNDERSTANDING OF DISASTERS AND URBANIZATION

IT IS OBVIOUS that most urban contexts are different from rural contexts with regard to:

- *the spatial concentration of hazards and the number of people at risk from them:* obviously concentrating tens of thousands or millions of people in one location poses particular problems regarding many hazards;
- *the number of hazards:* for example, the range of infectious and parasitic diseases that can spread rapidly amongst concentrated populations; the close proximity of people; potentially dangerous industrial processes and industrial wastes; the concentration of motorized road vehicles in close proximity to people, etc.; and
- *the mix of and possible synergy between hazards:* e.g. industrial accidents or floods contaminating water supplies, or earthquakes causing large-scale fires.

Indeed, cities can be seen as *crucibles of hazards* that, without good management, generate extreme situations of vulnerability and risk for very large populations. Risk-accumulation processes in urban centres, such as ever-increasing numbers of people at risk from floods or accidental fires, are not so much inherent to urban development as produced by complex and dynamic interactions between human and naturally induced hazards and extreme conditions of vulnerability. The vulnerability of urban populations to disasters is not “natural”, but is constructed and amplified by economic, social and political systems. Changes in these systems can greatly reduce these vulnerabilities.

The fact that urban centres concentrate multiple risks that often have complex interconnections makes it harder to identify the risks and act to reduce them. There is a need for multi-hazard analysis and multi-vulnerability analysis. We are beginning to understand the relationships in this complex mix of disaster hazards and the many interrelated components of urban poverty, including not only inadequate incomes or assets

amongst households but also poor-quality housing, a lack of basic infrastructure for providing water, sanitation, drainage and garbage removal, and a lack of civil and political rights. In particular, the lack of infrastructure to remove liquid and solid wastes creates both non-disaster risks and disaster risks (especially from floods), whilst the lack of health care and emergency services increases the impact of all accidental injuries, whether from disasters or smaller events.

Certain urban characteristics have obvious relevance to understanding disaster risks:

- concentrated populations due to a concentrated labour market for non-agricultural activities (which is what underpins virtually all urban centres);
- land markets that are unrelated to the land's agricultural potential, with land costs often pricing most or all low-income groups out of "official" land-for-housing markets. This means that large sections of the urban population acquire land and build housing outside of the official system of land-use controls and building standards, yet these controls and standards are meant to reduce the vulnerability of buildings and urban neighbourhoods to disasters;
- high-density populations plus concentrations of their solid and liquid household wastes (a particular problem if there are no services to collect and remove these); and
- large, impermeable surfaces and concentrations of buildings that disrupt natural drainage channels.

It is also common for cities to develop next to rivers or on the coast as ports, which often means a heightened risk of flooding. Many cities also have large transient populations which rely on renting beds or rooms; it is often particularly difficult to capture their interest in disaster risk reduction.

Disaster studies have tended to be dominated by an interest in hazard-prone areas and in engineering and structural solutions. These generally ignore the scale and nature of vulnerable populations, and the complexity of urban processes and their capacity to increase or decrease risks from disasters. Not all extreme weather events, fires or earthquakes detonate disasters; indeed well-managed urban centres help ensure that many such events do not become disasters.

There is still a tendency to see an earthquake or flood as the disaster rather than as the catalyst for the disaster. The magnitude of the disaster is so often the result of the lack of attention given to reducing the vulnerability of people, structures and systems to these events before they occur, by governments and communities (and international agencies). The same is true for epidemics and most fires. In urban areas, the disastrous loss of life, scale of injuries, damage to property and loss of livelihoods from such events is, in large part, the result of inappropriate or no urban management. There is little that is "natural" about most floods in growing urban centres, for instance, as they are caused by the ways in which urban development has reshaped the landscape and flows of water.

Thus, there is a need to integrate into urban management (and urban governance structures) the identification of disaster risks and measures to reduce these risks and the vulnerability of urban populations to these risks. This means a critical shift in who is seen as responsible for addressing disaster risk. The Army can no longer be seen as the main institution responsible for disasters, as it can do little or nothing to reduce risk from disasters in urban areas. There is the need to integrate disaster risk reduction into all

the departments or agencies within urban governments (and, where appropriate, national and provincial governments) and to move away from sectoral disaster programmes that do not operate collaboratively with all agencies and civil society groups that influence urban processes.

We need to:

- move from a concentration on the disaster event to understanding the risk processes that can be acted on (which also helps to integrate an understanding of how risks from disasters and everyday hazards are connected);
- understand how social, economic and political structures construct risk – and have the potential to reduce it; no disaster should be considered “natural” when it is caused by the failure to anticipate the disaster event and act to reduce its impact; and
- move from a focus on individual hazards to multi-hazard analysis.

It is important, however, to recognize that this new conception of disasters might diminish attention to the limited but critical sub-sector of crisis situations linked to external physical events that affect vulnerable populations. We need to go beyond studying only disasters to understanding underlying processes and their links with urban development (and with non-disaster risks), but *without* diminishing the importance of understanding and acting on disaster risk.

IV. INTEGRATING AN UNDERSTANDING OF RISK FROM DISASTERS AND EVERYDAY HAZARDS IN URBAN AREAS

AS DISASTER SPECIALISTS begin to recognize the importance of small disasters on the lives, assets, livelihoods and incomes of people, the distinction between risks from disasters and risks from everyday hazards begins to lessen. In the end, there is a recognition that there is a continuum from large disaster events that generally occur infrequently but which often kill or injure large numbers of people, to everyday events that may kill or injure only one person (Table 1). In most cities and smaller urban centres in low- and middle-income nations, these everyday events cumulatively kill or injure more people than large disasters. Perhaps both the urban specialists and the disaster specialists have paid too little attention to disasters which are too small to fall within most official disaster statistics and which are not everyday occurrences.

The distinction between disasters and non-disaster events is more easily made in nations where premature death or serious disablement from everyday hazards (communicable diseases or accidents) have been reduced. For instance, in prosperous, well-managed cities, it is very rare for infants or young children to die from infectious diseases. Just one child dying of diarrhoeal disease or acute respiratory infection is regarded as an unusual event, and one that should not happen. But in most cities and smaller urban centres in Africa, there are still very high infant and child mortality rates from everyday hazards. In less prosperous, poorly managed cities, it is common for between one and two children in ten to die before the age of five from such diseases or from household accidents. So, in a large city, there may be what could be defined as a “disaster” every day, as more than ten children die from infectious diseases or accidents, or more than 100 children have their health/nutritional status seriously compromised by illness – but these are not classified as disasters. In some large cities, it is probably common for more than ten persons to

| Table 1: Comparing disasters, “small disasters” and everyday hazards in urban areas | | | |
|--|--|--|--|
| Nature of event | Disasters | Small disasters | Everyday hazards |
| Frequency | Generally infrequent | Frequent (often seasonal) | Every day |
| Scale | Large, or potential to be large (e.g. 10 or more killed, 100 or more seriously injured, need for external assistance) | 3–9 persons killed, 10 or more injured | 1–2 persons killed, 1–9 injured |
| Total impact | Can be catastrophic for particular places and times in most low- and middle-income nations, but generally a low overall contribution to premature death and serious injury | Probably a significant and considerably underestimated contribution to premature death and serious illness or injury | In most African urban areas, these remain the main cause of premature death and serious injury |
| An integrated framework incorporating risk from disasters and “non-disaster” events | VERY LARGE IMPACT FOR CITY LOW FREQUENCY | CONTINUUM OF RISK | SMALL IMPACT FOR CITY VERY HIGH FREQUENCY |

2. Mega-cities are usually defined as cities or urban agglomerations with 10 million or more inhabitants. Some international reports suggest that Lagos may now have more than 10 million inhabitants, but this is unlikely given the 1991 census data, which suggested around 5 million inhabitants, and the serious economic crisis the city has faced since then, which is likely to have kept down net in-migration.

3. Derived from United Nations (2002), *World Urbanization Prospects: The 2001 Revision; Data Tables and Highlights*, Population Division, Department of Economic and Social Affairs, United Nations Secretariat, ESA/P/WP/173, New York, 181 pages.

4. UN–Habitat (2003), *Water and Sanitation in the World's Cities: Local Action for Global Goals*, Earthscan Publications, London; also Hardoy, Jorge E, Diana Mitlin and David Satterthwaite (2001), *Environmental Problems in an Urbanizing World*, Earthscan Publications, London.

be killed in road accidents in a day, or more than 100 to be injured seriously – yet this would not be considered a disaster because they are caused by several distinct events.

V. DISASTERS AND SMALL URBAN CENTRES

BOTH URBAN SPECIALISTS and disaster specialists are also recognizing that far too little attention has been given to smaller urban centres. Much of the literature on urban problems and urban disasters focuses on large cities (including the mega-cities). Most large cities have very serious problems both with everyday hazards and with disaster risks. Most are on coasts and many are at risk from earthquakes. Such large concentrations of people and systems of production obviously bring particularly serious problems. Yet a relatively small proportion of the urban population of Africa, Asia and Latin America live in large cities. There are no mega-cities at all in sub-Saharan Africa⁽²⁾ and 70 per cent of Africa's urban population live in urban centres with fewer than 1 million inhabitants.⁽³⁾ When considered in terms of exposure to everyday hazards, the populations of smaller urban centres are often at greater risk than those in larger urban centres, because provision for water, sanitation, drainage and health care is much worse.⁽⁴⁾ At the same time, a growing number of case studies of smaller cities or urban centres show the extent to which their populations are at risk from larger-scale disasters.

VI. DISASTERS AND URBAN DEVELOPMENT IN AFRICA

THE UNDERESTIMATION OF the impact of disasters in urban areas and of their relationship to inadequate urban management (especially its

failure to identify and act on disaster risk-accumulation processes in and around cities) is widely recognized in Latin America; as noted above, a network of researchers and implementers, *La Red*, has long been active, working on this topic. There is also a growing interest in this in Asia, where it is now recognized that good urban management (and the urban governance structure this needs) can greatly reduce disaster risks in urban areas, thereby significantly reducing premature death, serious injuries and loss of property. Good management also helps reduce poverty (or an increase in poverty), since much of the risk from disasters and the vulnerability to disaster events is concentrated amongst low-income populations. But, with the exception of the *Periperi* network (whose work is described in Box 2) and a few case studies, there has been little attention to this in Africa, especially amongst African researchers and urban specialists. Thus, one of the main interests of the Nairobi workshop was to consider how to direct more attention to this topic and, from this, to get more action. It is possible to demonstrate the very significant benefits and avoidance of costs that come from measures to prevent disasters or to limit their impacts, especially in cities that are growing rapidly. These measures reduce the risk-accumulation processes associated with unplanned and inadequately managed urban development.

VII. WHY IS DISASTER RISK NOT ACTED ON?

WE NEED TO move from “disaster” talk to “risk reduction” talk. This means seeking to understand why risks are not being reduced (or indeed how risk levels are accumulating within urban centres). Many analyses of disasters have shown that losses are heavily concentrated amongst lower-income groups and other groups with the least political power. Meanwhile, the more powerful vested political and economic interests and the wealthier households are often protected from disasters. Politicians may even “benefit” from disasters, for example by being seen to respond when a disaster occurs, when they should have acted before it occurred to reduce the risk.

Why don't governments act to reduce risk?

- A conscious decision (“...ignore the informal settlements and their inhabitants' needs”; “...governments cannot provide infrastructure to illegal settlements”).
- An inability to perceive the problem (agencies responsible for disasters having a perception of disasters as being rural and related to famine and drought, whilst urban authorities do not see preventing disasters as being their responsibility).
- A lack of awareness of the value of the assets lost by affected poor populations (and of their importance to city economies).
- No data to demonstrate the extent of the problem (often related to institutional inadequacies).
- An inability to act/an absence of structures to address the problem (for instance, local government being responsible for acting on most local hazards but only having a very small proportion of total government funding).
- An absence of political channels to allow vulnerable communities to demand action on reducing unacceptable levels of risk.

Why don't low-income communities act to reduce risk?

- A failure to perceive how serious disaster risk is until a disaster event occurs.
- Disasters (e.g. flooding) occur so regularly that communities adapt rather than seek to limit their scale and impact.
- Constraints on being able to act effectively (related to the difficulty in getting agreement on action within their settlement; difficulties in raising the funds needed to act effectively; or too many other pressures).
- A failure to negotiate government action (often related to weak local governments that cannot do much anyway, or unaccountable and undemocratic governments on which it is difficult to apply pressure to work with poorer groups and in informal settlements).
- National and local political structures that create incoherent and poorly coordinated funding systems, from which it is difficult to get funding for coordinated, long-term programmes.

Why don't international agencies act to reduce risk?

- Acting to reduce risk often requires actions undertaken in collaboration with different agencies.
- Some agencies specialize in disasters, others in development, and the links between the two are not established or acted on.
- An agency with both development and disaster budgets keeps these separate.
- Funders like simple, discrete projects, so it is often not easy to get funding for risk-reduction projects, which are cross-disciplinary, involving many agencies and integrating many components (what are often referred to disparagingly by international agencies as "Christmas tree projects" because they have so many different components).
- Risk reduction often involves long-term processes whose effectiveness may be hard to demonstrate (for instance, it is difficult to prove how many lives have been saved or livelihoods protected by risk-reduction measures when an extreme weather event or earthquake happens).
- Each international agency also has its own programmes, criteria for allocating funding, and project cycles (which helps explain the poor integration between them). The same is true for national agencies.

VIII. CONCLUSIONS

IT IS POSSIBLE to move towards an understanding of the risk that urban dwellers face with regard to their lives, health, asset bases or livelihoods that incorporates official disasters, small and medium disasters and everyday risks that are not "disasters", yet are disastrous for individuals or households (e.g. one family member killed or seriously injured; loss of a household's asset base or livelihood source). But how is this understanding developed? Three points need stressing.

The need to root this understanding in local contexts. The need for local research to understand the quantitative and qualitative risk-accumulation processes, the key actors and the causal processes that are particular to each city and city-district. This then provides the basis for action on disaster prevention and mitigation. Risk is always best assessed at a local level because it is based on the outcome of the relationship between particular groups of people and hazards in these people's living and working environments. One clear need is for good empirical data on the

scale, nature and impacts of disasters (including small disasters) in particular cities or smaller urban centres. These need to “drill down” in urban geography, into individual cities and districts within cities, and into individual informal settlements while, at the same time, allowing for an understanding of risk at the district, city and city-region level (layered information; community to global). The MANDISA database, established by the Disaster Mitigation for Sustainable Livelihoods Programme, includes over 12,500 incidents for the Cape Town Metropolis, almost 50 per cent of them in informal settlements. This is in contrast to the 600 identified large events and declared disasters.

The need to create a locally owned process of risk identification and reduction. Perhaps the most important aspect of risk reduction amongst most of the vulnerable populations in urban areas of Africa is support to community processes that identify risks and set priorities – both for community action and for action by external agencies (including local governments). This is difficult for low-income populations, especially where they are diverse and have different priorities (for instance, short-term tenants will inevitably have less commitment to community action than longer-term “owners”). Also, most citizens are reluctant to act, as they see this as the responsibility of governments. Meanwhile, it is also difficult for governments and external professionals to support community processes, as they assume that their training equips them to identify and design the best solutions.

Empirical studies will also help show key differences in the scale and nature of risk. No two informal settlements will have exactly the same range and relative ranking of risks. It is hard to generalize about low-income areas, as people and their living environments in different areas have different characteristics. Settlements also appear (and grow) for different reasons. Their inhabitants have different stakes in disaster prevention (as noted above, tenants have less interest in investing in disaster prevention than owners). Such local studies need to involve all stakeholders. They also need to provide data to help mobilize local government action. In part, the lack of interest in disaster prevention amongst governments is related to the limited data available on this topic. One key need is to catalogue the number and type of disasters (including small and medium disasters) that have occurred. This also allows an identification of trends which, in turn, can help identify risk-accumulation processes. This also needs to be linked to the development of risk reduction and management plans, and training to support the development of such plans for local government staff.

Three questions that these studies must address are:

- What are the links between urbanization (the growing proportion of a nation’s population living in urban areas), or the growth of each urban centre, and risks (from disasters, small disasters and everyday hazards)?
- Do urban centres have characteristics that present particular opportunities for risk reduction (for disasters, small disasters and everyday hazards) or particular difficulties?
- Are existing patterns of everyday hazards and small disasters indicators of vulnerability to large disasters?

IX. BACKGROUND PAPERS AND FOLLOW UP

THE WORKSHOP PARTICIPANTS are planning an action-research programme to identify the scale and range of disasters and their impacts

in urban centres in seven African nations (Cameroon, Ghana, Nigeria, Senegal, South Africa, Tanzania and Zambia). This will cover a range of large and small urban centres (the study of small urban centres being particularly important in that most of Africa's urban population lives in urban centres with fewer than 250,000 inhabitants). It will include an analysis of who is vulnerable to disasters and why, and the identification of trends in the disaster risk-accumulation processes associated with urban development. The research plans to support the development of risk reduction and management plans in each location; in addition, through publications, seminars and inter-city exchanges, to generate greater interest and action in this subject amongst international agencies, national and local governments, NGOs and community organizations in other urban centres in Africa.

Plans for publications and their dissemination are now being developed; the intention is to have a web site from which publications can be downloaded at no charge. While these are being developed, electronic copies of the papers presented at this workshop can be obtained by e-mailing IIED's Human Settlements Programme (humans@iied.org).

