

Mainstreaming risk reduction in urban planning and housing: a challenge for international aid organisations

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The effects of ‘natural’ disasters in cities can be worse than in other environments, with poor and marginalised urban communities in the developing world being most at risk. To avoid post-disaster destruction and the forced eviction of these communities, proactive and preventive urban planning, including housing, is required. This paper examines current perceptions and practices within international aid organisations regarding the existing and potential roles of urban planning as a tool for reducing disaster risk. It reveals that urban planning confronts many of the generic challenges to mainstreaming risk reduction in development planning. However, it faces additional barriers. The main reasons for the identified lack of integration of urban planning and risk reduction are, first, the marginal position of both fields within international aid organisations, and second, an incompatibility between the respective professional disciplines. To achieve better integration, a conceptual shift from conventional to non-traditional urban planning is proposed. This paper suggests related operative measures and initiatives to achieve this change.

Keywords: developing countries, disaster, housing, prevention, risk reduction, urban planning

I. Introduction

The need to work on disaster risk has tended to ‘fall between the cracks’ of the grander frameworks of development cooperation and emergency relief (Christoplos, Mitchell and Liljelund, 2001, p. 185). Yet, Benson and Twigg (2004) confirm that recently there has been a convergence of the previously separate discourses on development and disasters around the linked themes of vulnerability, social protection and livelihoods. While the mainstreaming of risk reduction is becoming increasingly recognised as a key challenge for development, very little work has been undertaken to date to identify *how* this could be done (Tearfund, 2005).¹

The absence of integrated *urban* risk reduction is a subgroup of the failure to mainstream risk reduction in development cooperation. Urban risks play a significant role in Latin America and Asia where a high percentage of the population already lives in cities, as well as in Africa, the continent with the world’s fastest rising urban growth rate. According to Pelling (2003b, p. vii), ‘urbanisation looks set to be one of the most forceful drivers for and contexts of social change that will prefigure disaster risk in the medium and long term’. Furthermore, ‘urbanization affects disasters just as profoundly as disasters can affect urbanization’ (Pelling, 2003a, p. 7). In large part, this is because

urban growth, whether planned or unplanned, seldom occurs to reduce disaster risk. In response to this fact, the Hyogo Framework for Action 2005–2015 urges that disaster risk should be addressed in urban planning, along with other technical matters, such as housing. It calls on governments to:

Mainstream disaster risk considerations into planning procedures for major infrastructure projects, including the criteria for design, approval and implementation of such projects and considerations based on social, economic and environmental impact assessments. (To) develop, upgrade and encourage the use of guidelines and monitoring tools for the reduction of disaster risk in the context of land-use policy and planning. [...] (To) encourage the revision of existing, or the development of new building codes, standards, rehabilitation and reconstruction practices at the national or local levels [...] particularly in informal and marginal human settlements [...] (Section 4, paragraph 19(iii), p. 12).²

However, little research has been done on *how* risk reduction can be effectively mainstreamed in the *developmental sectors of urban planning and housing*.³ While purely structural (physical) risk reduction initiatives, such as conventional and traditional engineering or planning, which can easily create false security, are decreasingly seen as *the solution*, few alternative strategies are being developed to replace them.⁴

Against this background, this paper tackles the following question: if an appropriate, secure, urban environment is the aim, what prevents us from achieving it, and how can risk reduction be integrated in a more holistic and comprehensive way into urban planning, as well as into building capacities? The impact of past disasters and their related experiences should influence the way urban planning is being handled today, in order to promote a process that will enable decision-makers and urban poor populations—those most affected by disasters (see, for example, Wisner et al., 2004; IDNDR, 1990)—to avoid creating structures and environments that may lead to future disasters.

This paper is based on a previous study by Wamsler (2004), which illustrated how urban planning and the occurrence of disasters interact. This study further identified a lack of integration between the working fields of risk reduction and urban planning, which results in international aid organisations contributing to the increased vulnerability of the urban poor in the following two ways:

- actively, through existing projects and programmes, which focus only on urban planning or risk reduction; and
- passively, through the failure to develop projects and programmes that incorporate both fields.

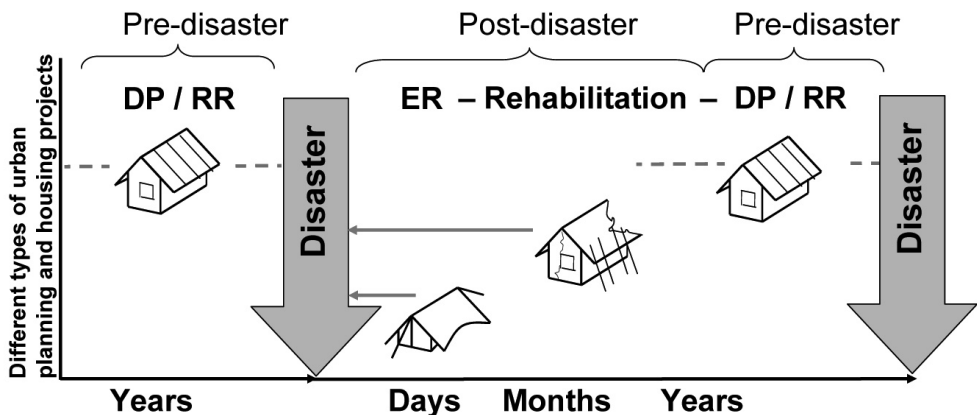
Based on these outcomes, the present paper analyses the *underlying reasons* for the lack of integration of these two fields, and presents planning measures that international aid organisations could apply to reduce urban risk. Although the focus is on the international level and the perceptions, practices and potentialities of related organisations vis-à-vis risk reduction and urban planning, national development bodies can also implement the resultant identified initiatives.

II. Methodology and outline

Risk reduction can be implemented and is essential before, during and after disasters, yet the term as used in this paper pertains only to prevention, mitigation and preparedness measures in a developmental, pre-disaster context (see Figure 1). This was necessary to limit the scope of the research, and to concentrate on the most neglected areas of advocacy, funding and knowledge of potential risk reduction measures.

The methodology of the presented research is qualitative, since it aims to understand the underlying reasons for an existing situation, to provide insight into the setting and circumstances of existing problems, and finally to generate possible ideas for solutions and recommendations that, a priori, could not be foreseen. The study was mainly carried out between November 2003 and August 2004. It is based on reviews of project documents and technical literature on urban planning and risk reduction, as well as on individual interviews with a total of 61 programme and project managers, operational or academic staff from 31 multilateral and bilateral aid agencies, governmental organisations and non-governmental organisations (NGOs), including developmental or financial institutions, consultancies and research establishments working at the international level.⁵ Research trips were made to: Geneva, Switzerland; Stockholm, Sweden; Washington, DC, US; Rio de Janeiro, Brazil; and various locations in the UK.⁶ The respondents were selected in a balanced way: 24 interviewees had a disasters background; 24 an urban planning background; and 13 a general developmental background. The majority of individuals with a disasters background have worked in relief organisations or the relief divisions of development organisations. The author was frequently guided towards relief specialists as appropriate risk reduction contacts, while interviewees in sector development divisions and/or those with an urban planning background were initially generally hesitant about discussing natural disaster issues.

Figure 1 Research focus: pre-disaster projects in the field of urban planning—one subset of development planning—and risk reduction



Note: DP = development planning; RR = risk reduction; and ER = emergency relief.

Source: Wamsler, 2002.

This is indicative of the primary problem identified by the research: the lack of integration of risk reduction and urban planning.

All interviews were recorded, transcribed and analysed by filtering out recurrent themes and patterns.⁷ Citations and comments made in interviews and presented in the paper were selected as exemplary and representative with regard to recurrent and specific themes, and were all confirmed by the interviewees. The surname of one representative interviewee and his/her organisational affiliation accompany them in the paper.

Complementary studies were carried out in Colombia and El Salvador during 2004–05, to compare and supplement the findings at the international level with those at the national and local level. The additional data permitted verification and validation, as well as complementation of the outcomes of this study with national and local perspectives.⁸

Sections III–V of the paper are based on data obtained through interviews and literature reviews. The generic challenges of mainstreaming risk reduction in development planning are discussed, and—within this framework of development planning—additional and specific barriers to the mainstreaming process in the realm of urban planning demonstrated. Sections VI–X present a new conceptual framework for viewing and considering the mainstreaming of risk reduction in urban planning.

III. The gap between ‘disaster people’ and urban planners

The study differentiates between people working in the field of development (‘development people’) and those employed in the area of disasters (‘disaster people’).⁹ Urban specialists form part of the group of development people, and in turn, urban planners make up part of the group of urban specialists (see Figure 2). The disaster people category includes mainly those working in the sphere of disaster emergency relief and on ‘longer-term’ preparedness.

The interviews revealed a lacuna or incompatibility between these different professional groups and disciplines, which in fact should share responsibility for risk reduction. Those professionals coming from very different educational backgrounds lack the appropriate knowledge and adequate institutional structures required to support most effectively their contribution to risk reduction and to coordinate their efforts. Literature confirms that ‘this broad spectrum, whilst being a strength in the multi-faced push to reduce disaster risk at all levels and across all sectors, simultaneously adds to the confusion regarding whose responsibility it currently is’ (Tearfund, 2003, p. 22).

The interviews exposed particularly strong discrepancies between, on the one hand, the concerns of urban planners and disaster people, and on the other, the concerns of urban planners and other development people. The underlying reasons for this are examined below.

Historical separation

Discussions about disasters have traditionally taken place in the emergency relief arena, resulting in an institutional and cultural division and even tension between

disaster and development departments. Twigg and Steiner (2002), for instance, corroborate this with regard to NGOs. Consequently, development people often do not perceive risk reduction as their sphere of activity. In addition, because specialised development units and activities in the urban planning sphere are rare, and frequently of low priority, urban planners working within international aid organisations tend to have a particularly weak sense of ownership of risk reduction.

Interviewees with a disaster background stated that urban planners usually associate disasters only with the fire brigade and the Red Cross, because the subject of risk reduction is not properly integrated into their curricula. This situation is continuing to deteriorate along with the developing trend of converting architecture and planning schools into art and design houses, which have not incorporated social content into their syllabi (Davis, DMC). Thus, risk reduction is often not well developed in urban planning practice. This state of affairs is further exacerbated by the fact that urban planners themselves have little experience of immediate post-disaster work, as compared to other professionals (Keipi, IDB). In fact, disaster response team members and relief professionals generally organise the construction of (temporary) housing and settlements following a disaster, neither of whom necessarily have an urban planning background.

In conclusion, the historical separation and related lack of education and experience on the part of urban planners in the field of risk reduction result in disaster people perceiving the planning sector as one of the most difficult development sectors with which to work, since knowledgeable and experienced experts are uncommon. In their defence, urban planners argue that, due to a series of political, institutional and financial constraints, those planners who do have specific knowledge of risk reduction are often unable to have this translated into practice (Gavidia, UN-HABITAT). These constraints are further explored later in the paper.

Working priorities, concepts, terminologies and tools

The historical separation results in the use of different working priorities, concepts and terminologies that further foster the gulf between the different professionals. Several cases in point are described below.

The interviews and literature, such as Bull-Kamanga et al. (2003), reveal that development people focus more on life, health or livelihood threatening everyday hazards, while disaster people look at life threatening situations of occasional large-scale disasters. Furthermore, disaster people use concepts and terms like 'risk', 'mitigation', 'preparedness' and 'prevention', whereas development people tend to employ terminology like 'security' and 'security measures'.

Although the concept of sustainable livelihoods has the potential to bring together disaster and development people (Christoplos, Mitchell and Liljelund, 2001), the interviews revealed that, in general, disaster people do not apply this concept. In contrast, development people coming from a social science background have a propensity to 'overlook' the built environment as a livelihood asset. Actually, interviewees repeatedly stated that compared to 'livelihood aspects', urban planning and housing are not important.

This ignores the fact that, for instance, housing is an important physical, social and financial asset (Hamdi, CENDEP). Surprisingly, even though urban planners are an inherent part of the body of development people, the interviews indicated that they are, ordinarily, much less familiar with the livelihood concept. This also relates to the fact that urban planners often do not perceive non-structural activities, as well as small-scale risk reduction measures (for instance, the tying down of roofs with ropes), as part of their work, thus impeding the development of mutual understanding with other development people (see Figure 2).

Compared to development people, furthermore, urban planners conceded that they are usually less familiar with environmental aspects and, consequently, with the Environmental Impact Assessment (EIA), a tool for predicting and evaluating the environmental ramifications of planned activities, generally demanded by donors for any planned improvement or new development. In reality, urban planners are still far from carrying out and understanding an EIA or even working with the people who conduct this type of assessment (Hamza, IC).

The distinctiveness of humanitarian priorities—to protect life and reduce excessive human suffering—together with the concepts of ‘neutrality’ and ‘impartiality’ followed by disaster people create further conflict, as this group of professionals considers development projects to be of a more political nature (Schaar, Sida).¹⁰ Additionally, while there is a diverse range of working approaches within each sector, disaster people (apart from those working for NGOs) and urban planners are criticised for their tendency to adopt a more centralised and top-down approach, which adheres to pre-defined institutional structures and practices. Conversely, development people (excluding urban planners) are inclined to think more from the bottom-up, with a vision of decentralisation, depending on the possibilities provided by institutional and regulatory frameworks.

The different counterparts and networks used by urban planners to implement projects, together with related working approaches, also create conflicts between them and disaster and development people (Doyle, IDB). Development people in particular, who tend to work more directly with the beneficiaries, view sceptically cooperation between urban planners and the private sector established to provide housing, infrastructure and services.

Competition

The interviews revealed that the partly existing interest of urban planners in a more holistic working approach clashes with the one of other stakeholders involved in risk reduction who have varying political, economic and social backgrounds (Pelling, EDRG, King’s College London). In fact, competition for funds and influence was mentioned repeatedly during the course of the research. Interviewees tended to be territorial and sectoral within every working field and discipline, attempting to claim the whole sphere as their own. Interest in developing more integrated, interdisciplinary risk reduction projects is further limited by donors’ separate budget lines for development and emergency relief, with these structures actually reinforcing the gap between the professional disciplines.

Competition regularly took the form of scepticism about the tools and capacities of other fields. The urban planners' developmental approach is frequently perceived as a proven failure: disaster and development people criticised urban planning as being a purely structural and formal tool, often related to expensive large-scale engineering measures, that does not have any relevance to sustainable risk reduction. Moreover, urban planners are perceived as particularly concerned with design or profit-oriented issues, thereby ignoring risk reduction aspects (for instance, being preoccupied with the ratio of the circulation area to the area served, leading to the use of space-saving staircases, while ignoring its basic function of risk reduction: to provide core strength). Scepticism regarding planners is also based on negative experiences of cooperation, during which urban planners—following the old/traditional principles of planning—were viewed as a problem and not as a solution (Satterthwaite, IIED). In contrast, urban planners criticise the very limited impact of 'soft' risk reduction measures (such as awareness raising and training) implemented by the other professionals. Disaster people themselves partly support this criticism (Bastable, Oxfam).

Legal/institutional structures

The lacunae between professionals with an urban planning, development and disaster background can be demonstrated and are further reinforced by the following five institutional aspects:

- First, the internal and inter-institutional structure of international organisations often does not favour a multidimensional and holistic approach, impeding cooperation and the creation of integrated risk reduction projects (Schaar, Sida).¹¹
- Second, the internal organisational structure of international agencies, with independent, regional or national centres, can hinder the integration or mainstreaming of risk reduction, with headquarters struggling to include risk reduction in regional and national agendas (Bastable, Oxfam).
- Third, the time frame of international projects often precludes those processes necessary for integrated urban planning and related implementing processes, also resulting in time constraints for more participatory approaches (Gavidia, UN-HABITAT).
- Fourth, because of the reduced number of implemented urban planning projects since the mid-1980s, and thus the lack of related organisational structures, the partial interest of disaster people in inter-departmental and inter-institutional connections that could be conducive to more integrated urban planning/risk reduction often can not be established (Bastable, Oxfam).
- Fifth, institutional and legal structures for risk reduction and urban planning at the national level are frequently separate, absent or lack national-municipal collaboration, thus reducing the possibility of promoting more integrated planning projects (including risk reduction) through international organisations. The lack of national-municipal collaboration is illustrated by the case of New Delhi, India, where a settlement created by the national Ministry of Housing was bulldozed the following day by the municipal division for infrastructure development (Rowell, CARE).

IV. Risk reduction: a marginalised working field

The marginal role of risk reduction is generally recognised. There is a possibility that risk reduction becomes another label swirling around with others in the gap that exists between disaster emergency relief and development (Christoplos, Mitchell and Liljelund, 2001). The interviews revealed that the marginalisation of risk reduction in the agendas of international organisations is mainly based on three opposing foci:

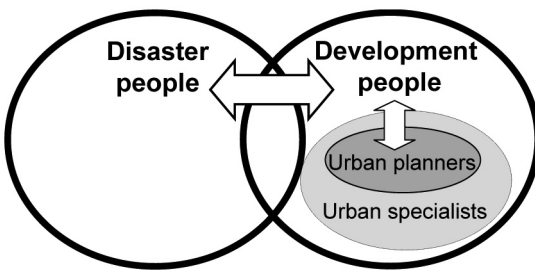
- risk reduction versus emergency relief;
- natural disasters versus man-made crises; and
- risk reduction versus development.

Risk reduction versus emergency relief, and natural disasters versus man-made crises

According to Maskrey (UNDP–BCPR), ‘somehow we still have not got this idea that it is better to reduce risks than to have disasters, and it is still not on the political agenda in any big way’. Literature and interviewees confirmed that risk reduction is not perceived as ‘politically sexy’ (that is, invisible, only having long-term impacts, et cetera) and, therefore, is of low priority for international organisations. Lack of interest at the national level is partly because national authorities hope to receive international financial resources following a disaster, as well as because of fast changing governments, which do not have any interest in long-term investments (Keipi, IDB). This also presents a barrier to the promotion of risk reduction at the international level, where the money invested in this field and the number of people involved are negligible,

when compared to the budget and staff engaged in emergency relief in general, especially in relation to man-made crises like wars and internal unrest. Apart from enormous disasters, such as the December 2004 tsunami in Asia, interviewees agreed that man-made crises, as in the case of Iraq, generally attract more international attention and hence funding.

Figure 2 The gap between disaster people, development people and urban planners



Legend:

↔ Shows incompatibility and tension due to 1) distinct tradition, education, and experiences; 2) different working priorities, concepts, terminologies, methods and tools; 3) separate legal/institutional structures and financial resources.

Result: Competition, marginal role of urban planning and risk reduction in development cooperation, as well as non-integration of urban planning and risk reduction.

Risk reduction versus development

In the developmental context, risk reduction competes with poverty alleviation, because aid organisations have not clearly identified the link between risk reduction and

poverty (Milbert, IUED). One exception seems to be the World Bank's handbook on the preparation of Poverty Reduction Strategy Papers (PRSPs), which identifies the low level of security, including 'exposure to risk and income shocks that may arise at the national, local, household, or individual levels', as one of the four basic dimensions of poverty (Klugman, 2002, p. 3).

During the past three decades, policy statements related to all major developmental and environmental agendas have included the reduction of disaster risk as a precondition and an integral part of sustainable development (UN-ISDR, 2002).¹² However, when it comes to practical implementation, very little has been done, even when money has been available. After Hurricane Mitch in 1998, the Swedish International Development Cooperation Agency (Sida) implemented projects that were supposed to have an integrated risk reduction element. Nevertheless, an evaluation concluded that little money was spent on this issue (Frühling, 2002).

V. Urban planning: a marginalised working field

The marginal role of urban planning on the agendas of international organisations was identified as being due to two opposing foci:

- urban versus rural; and
- urban planning versus development.

Urban versus rural

The World Bank estimates that there is almost one billion poor in the world, of which more than 750 million live in urban areas.¹³ The interviews showed, though, that international organisations accord very low priority to urban issues. This is related to a number of 'urban myths', such as the perception that 'urban poverty is not as bad as rural poverty' (Sanderson, 2002, p. 2). Reasons for the rural bias, given by the interviewees, include:

- the history of development organisations, whose roots are to be found in village development;
- the belief that urban areas are the responsibility of national and municipal governments;
- the notion that project work is easier in rural areas due to institutional and demographic structures; and
- the lack of knowledge of the long-term impacts of projects in urban contexts combined with limited financial resources.

In the past decade, only a few organisations have started to put more emphasis on urban issues, while several bilateral agencies have demonstrated diminishing interest. The UK Department for International Development (DFID) and the Swiss Agency for Development and Cooperation (SDC) are examples of organisations that have actually decreased their number of projects related to, and staff working on, urban

development. Sida is an exception: it still has an urban division. Actions such as the establishment of the Cities Alliance in 1999¹⁴ and the specification of Millennium Development Goal (MDG) 7, Target 11 (UN-HABITAT, 2003),¹⁵ indicate an existing, but still marginal, interest in urban issues.

The rural bias at the international level does not necessarily reflect priorities at the national level. Interviewees mentioned several examples, where, due to national authorities' demands, the rural focus of international projects was broadened to permit the funding of activities in urban areas (Hall, WSP). With the current tendency among multilateral and bilateral donors to provide budgetary support for national-level programmes instead of funds for individual projects, PRSPs, country assistance strategies and the like are central to identifying the foci of interventions (Stein, Sida). However, research shows that urban poverty, human settlements and water and sanitation matters have been underrepresented and poorly understood in PRSPs.¹⁶

Urban planning versus development

Most of the interviewees confirmed that, due to negative experiences, as well as a shift in priorities and the constant emergence of new topics, international organisations are currently only implementing a few urban planning projects.

The historical development of international schemes/projects promoting urban planning influenced its present marginalisation, as well as the creation of barriers to the integration of risk reduction into urban planning: in the 1970s, governments received financial support for the building of housing for the poor on a mass scale. As these efforts were not very successful, donors started to back site and service programmes. From 1972, they assisted squatter upgrading, and in the early 1980s, the institutional development of housing financing institutions (World Bank, 1993). Running parallel to this, urban community development workers championed participatory methodologies in the 1960s and beyond. In addition, due to the failure of conventional and traditional urban planning and the lack of adequate responsiveness by urban planners to the fast changing needs of cities, Otto Koenigsberger developed participatory approaches, such as community action planning (Hamdi and Goethert, 1997). Despite these positive developments, and in view of the shift from 'delivering' to 'enabling' housing and settlements, it became even more difficult to promote and implement risk reduction measures. In fact, the 'enabling' approach can be viewed as an obstacle to integrated risk reduction and urban planning.

Some interviewees stated that, for a long time, urban planning was dismissed within their organisations, since it was associated with centralised, social planning (Chavez, World Bank). Besides, the structural adjustment programmes that the World Bank and the International Monetary Fund (IMF) introduced in the 1980s and 1990s not only increased vulnerability (Hamza und Zetter, 1998), but also marginalised the working arena of urban planning by decreasing the influence and political role of national planning units and urban planners (Molin Valdes, UN-ISDR).

Based on the MDGs and the outcomes of the World Summit on Sustainable Development, held in Johannesburg, South Africa, from 26 August–4 September 2002,

international donors now promote the private sector as a leading provider of urban infrastructure and services, including drinking water and sanitation. Unfortunately, this means that projects with a focus on urban planning again have a tendency to lean towards the more structural aspects, thus hampering the conception of more holistic planning, which should include risk reduction (Pelling, EDRG, King's College London).

Recently, different themes related to urban planning have been emerging from donors, such as 'strengthening local governments' (Sanderson, 2002). With the push towards decentralisation and dealing with municipalities, urban planning has attracted again the interest of international organisations (Chavez, World Bank). Furthermore, the Rome Declaration on Harmonization of 25 February 2003, designed to enhance coordination and synergy between donors and partner countries, combined with related discussions about PRSPs and Sector-Wide Approaches (SWAPs), has rendered the issue of sectoral planning, including urban planning aspects, relevant once more (Stein, Sida).¹⁷

VI. Mainstreaming risk reduction in urban planning

The interviewees acknowledged that, generally, risk reduction has to be integrated into existing systems and fields to be successful. At the international level, some agencies, which have specialised disaster units, have initiated the process of mainstreaming risk reduction by incorporating the topic step-by-step in their regional and thematic developmental departments. Consequently, the specialised disaster units have become smaller support services (Lazarte, ILO). Additionally, some organisations, such as the German Agency for Technical Cooperation (GTZ), the Inter-American Development Bank (IDB) and Tearfund, have been developing performance targets or guidelines in order to mainstream risk reduction in development policy and practice (see, for example, Tearfund, 2005). However, no organisation specifically targets the urban planning sector.

Some interviewees suggested that the easiest way to integrate risk reduction and urban planning is 'to wait for the next earthquake, let the city fall down and start again' (Maskrey, UNDP-BCPR). This paper proposes a more proactive approach that can help urban centres to identify and act on problems driven or led by what citizens themselves see as priorities. In this context, it is crucial to emphasise that 'if planners know about the process of ultimately getting buildings built, to inject into that the knowledge of how to make them safer, is just one out of 100 other components that one needs to think about' (Aysan, UNDP-BCPR).

To develop a more proactive approach, the proposed step is to encourage the development of a conceptual shift away from conventional and traditional urban planning towards a planning framework based on the proposed concepts of *urban environmental planning*, *defensible city*, *responsible architecture* and *urban disaster governance*, as discussed below. This shift is important in encouraging urban planners to develop a sense of 'ownership' of risk reduction, to enhance communication between them and other professionals, and hence to encourage more work on risk reduction, which links the

structural/physical with environmental, socio-economic, institutional and political aspects.

The proposed conceptual framework relates directly to the problems identified and demonstrated in the previous sections. The ideas presented in the framework have been partially discussed with some of the interviewees, and were further examined with national organisations in Colombia and El Salvador during 2004–05, in order to compare and supplement the findings derived at the international level.

VII. Concept 1: urban environmental planning

The concept of *urban environmental planning* expresses the necessary inter-connection between urban planning and broader environmental development aspects, thereby linking large-scale disasters with everyday small-scale disasters.

Assessment

EIAs (environmental impact assessments) have to become part of an integral urban planning discipline. Within *urban environmental planning* it is crucial that EIAs are not only based on experts' evaluations, but also on participative local livelihoods and risk assessments, including hazard, vulnerability and capacity analyses (see also Twigg, 2004, pp. 31–54). In this context, the whole range of risks from large- to everyday small-scale disasters has to be considered. For example, widening a road could create better access and enable the more efficient evacuation of marginalised settlements. However, such action could also increase traffic-related hazards, cause landslides if the perpendicular cut for the road in the hillside is not well selected, and increase the mobility of people, which, under particular conditions, can foster the spread of diseases. In addition, the EIA should not only consider the ramifications of certain developmental projects for the environment, but also the impacts that are created by the environment and which affect the actual planned project.

Selection of measures

When it comes to the selection or design of appropriate structural/physical risk reduction measures, the active integration of local people is important for the development of adequate performance indicators that link urban planning with environmental aspects. Such indicators, which are normally defined only in terms of the frequency of the occurrence of environmental hazards, should, especially in low-income areas, take into consideration the type of impact on the lives of potential victims (see also Kolsky and Butler, 2004). For instance, ultimately, it is not simply the frequency of flooding that is the critical factor for low-income residents. Depending on the type of existing housing and infrastructure, the critical factors could be aspects like the time lapse between the prediction and the actual occurrence, the duration of the flooding and the profundity of the water.

Legal planning framework

The majority of the interviewees agreed that legal frameworks related to urban planning have the potential to mitigate risks. To establish a framework that promotes *urban environmental planning*, existing legal documents have to be revised, not only by experts, but also with the help of community-based assessments. Such legal documents are international planning and cooperation papers, as well as national and local norms, codes and contracts regarding environmental protection, development, emergency relief, risk reduction and urban planning (including land use, infrastructure design, construction techniques, maintenance, and ownership aspects). These documents have to be linked, streamlined and adapted at all levels, including, explicitly, the respective bodies responsible for implementation and financing. Concrete examples of action are: the promotion of the integration of environmental policies (including risk reduction) into the municipal development plan; cross-checking of the rules and regulations for infrastructure and housing with those for environmental protection; the fusion of laws for emergency relief and development, thus coordinating responsibilities and resources for urban planning; and the adaptation of nationwide urban planning codes to different environmental and climatic regions within the country. Furthermore, it is especially important to link international agendas set out within environmental and human settlement frameworks. Examples are the Local Agenda 21 (and the Rio Declaration on Environment and Development) adopted at the United Nations Conference on Environment and Development (UNCED), also referred to as the Earth or the Rio Summit, in Rio de Janeiro, Brazil, on 3–14 June 1992, and the HABITAT agenda that came out of the second United Nations Conference on Human Settlements (Habitat II) held in Istanbul, Turkey, on 3–14 June 1996.

The revised legal documents should include more flexible rules for urban low-income or illegal settlements. Developing an urban planning framework for these areas becomes a question of moral and human rights, since it is not considered justifiable to put up barriers to prevent people from settling in an area of environmental risk if this exposes them to greater economic insecurity. In this context, the aim of urban planning should not be to transform the informal housing sector into a formal structure, to plan where people should or should not live, but rather to deal with people in situ, encouraging practices and structures that reduce risks without depriving the urban poor of their assets. Such an alternative approach could be combined with the ‘de-professionalisation’ of urban planning (being part of *Concept 3: responsible architecture*, see under IX), by, for example, implementing in situ measures through the work of ‘barefoot planners’ offering door-to-door advice on the upgrading of housing.

Risk maps, which form part of the basis of legal planning frameworks (for instance, for land use, the conservation and employment of natural resources), should be combined and connected to databases, providing not only information on existing hazards, but also on settlement development, local capacities and existing vulnerabilities (including housing and infrastructure), as well as their causes and effects. Additionally, existing maps and databases of different levels and organisations should be linked or merged and made compatible. For this purpose, terms and concepts have to be standardised.

Enforcement

Governments and municipal authorities need to be made aware of the benefits of sustainable urban planning, including risk reduction. They need to ensure that the legislation they have introduced is adequate and that the commitments they have entered into are implemented. Accountability is crucial. This became obvious following the Izmit earthquake in Turkey, on 17 August 1999. The construction company owners, who were imprisoned with a view to determining their accountability in respect of this disaster, in terms of loss of life and damage, were prematurely released, because of the inadequacy of the legislation (Aysan, UNDP–BCPR).

To improve and ensure the enforcement of urban planning frameworks and to decrease corruption,¹⁸ those responsible for implementation need to receive a better education and ample salaries. It is clear that a different approach is required to tackle the issue of illegal settlements. This could be achieved through innovative and accessible low-income insurance schemes, vigilance and giving advice via ‘barefoot planners’ or local groups, and ensuring the participation of community-based organisations in the implementation of urban planning initiatives. In Manizales, Colombia, the use of urban environment observatories in combination with environmental quality traffic lights helped to create awareness and a bottom-up movement that subsequently influenced city planning (see also Velásquez, 1998). Also in Manizales, housewives are working for the municipality, maintaining and controlling the colonisation of dangerous, non-habitable hill sites (García, OMPAD). Furthermore, the transformation of high-risk zones in eco-parks can help to enforce established limits in respect of the expansion of built-up areas, by combining environmental conservation, urban planning and risk reduction.

Common understanding based on local context

To promote a common understanding among those dealing with disasters, environmental development aspects and urban planning, based on a local context and designed to encourage local action on both large- and everyday small-scale disasters, the following three strategies are proposed (see also Bull-Kamanga et al., 2003, pp. 201–202):

- First, local research has to be undertaken to understand urban risk-accumulation processes, identifying the key stakeholders and the causal processes particular to each area, including analyses of their inter-correlation with environmental aspects and urban planning, and the active integration of urban planning and construction agencies.
- Second, to create a locally owned process of risk reduction, those community processes that identify, prioritise and focus on urban disaster risk must be supported. The instigation of discussion at the community level is crucial in order to initiate a bottom-up process, with the population demanding their right to a safe urban environment, thus bringing their voices into policymaking, and, consequently, improving themselves and the settlement in which they live (see also under *Concept 3: responsible architecture*).

- Third, empirical studies involving urban planning and construction stakeholders need to be carried out to demonstrate the main differences in the scale and nature of existing urban risks, and to supply data that will serve to support the mobilisation of any action required and permit the further refinement of policies.

VIII. Concept 2: defensible city

Defendable space is a term that emergency organisations currently use to depict bush-fire protection measures, while *defensible space*, coined by Oscar Newman in 1972, describes crime prevention actions (Newman, 1972). It is suggested here to include partially and extend these terms under the heading of *defensible city*, to express the need to integrate the concept of community protection against natural disasters as one key aspect of integrated urban planning, thereby achieving the incorporation of risk reduction in urban planners' spheres of activity.

Structural/physical protection

In practical terms, structural-oriented measures involve, inter alia, the construction of: firebreaks; flood defences (for instance, bunds around villages and dams combined with the extraction of water); access and evacuation roads to and from specifically vulnerable areas; escape routes to emergency shelters, protected rooms in basements (for hurricanes) or top floors (for tsunamis); subterranean electric wires; inclined roofs, preventing overload in the case of ash rain near volcanoes; and disaster-resistant social and technical infrastructure (such as retrofitting of critical amenities). In the case of bushfires, detachable roofs could be introduced, which can be removed to prevent the spread of fire.

Furthermore, the arrangement of houses and infrastructure is crucial (for instance, so as not to block water or lava flows; in respect of fault lines, the long axis of existing buildings can be placed parallel to the fault, so that the buildings present less of a vulnerable cross-section (Sieh, 2000)). With regard to specific arrangements, the following aspects are crucial for risk reduction: densities; building heights; street widths; and plot sizes. Also vital are the consideration of wind tunnels and the location of certain installations, such as pit latrines and handpumps in areas with a high water table that face the risk of landslide or flooding. Awareness raising and training must ensure that formal and informal builders and planners recognise and apply such measures.

Protective planning and preparedness

Although there is general knowledge about structural/physical protection measures, non-structural ones need to be invented. In sectors like agriculture, there is substantial documentation on the non-physical characteristics of risk reduction (including diversification of crops and planting on disjoint land parcels), while such development is still required within the actual field of urban planning. Examples are: back-up facilities (for example, transportation systems), when structural/physical measures such as

those listed above fail; the planting of trees and other vegetation to decrease the amount of damage caused by landslides, tsunamis and cyclones; evacuation plans; the creation of incentives to build in a safe manner; land pooling and readjustment; and the establishment of eco-parks and inventive early-warning systems. These are partly outlined below.

The creation of incentives to build in a safe manner depends on the respective national context and demands an imaginative approach. Cases in point are tax inducements and exchanging rights schemes. The latter is a tool that aims to reduce population densities in high-risk areas by transferring people to zones of lower risk. If, for instance, a five-storey building was constructed in a high-risk area, with the current law only allowing three levels, the building rights for the two additional levels could be transferred to a more secure part of the city. Other existing incentives are insurance schemes, which demand compliance with specific constructive precautions, and that encompass the destruction of houses following disasters. Insurance could cover people living in low-income areas, with only middle- and high-income inhabitants paying the fee.¹⁹

Slum improvement instruments are other measures that can be utilised to support protective urban planning. These tools are land development techniques, such as land pooling and readjustment, where a group of separate land parcels are assembled for unified planning, servicing and subdivision as a single area, with some of the new building plots sold to recover the costs and the other plots redistributed to the land-owners. In fact, re-plotting/relocation can be used to design a low-income settlement that offers better protection to its inhabitants. And, as mentioned before, the establishment of eco-parks can help to limit the expansion of the built environment to high-risk areas.

Regarding the use of early-warning systems as a means to protect urban communities at risk, local urban indicators must supplement natural disaster databases, which in turn can serve as a type of urban early-warning system. These indicators have to be developed in such a way that they can link large- and everyday small-scale disasters. In a particular area, for example, the number of existing pit latrines (perforating hill sites), or a certain recurrence of rainfall triggering small-scale floods and erosion, could be indicators of the increased risk of large-scale landslides. In another area, greater use of particular cooking facilities could point up an enhanced risk of health impacts or conflagration. Additionally, in an area where direct links between poverty, mobility and the spread of the human immunodeficiency virus (HIV) could be identified, and given that the highly mobile construction worker's sector is believed to be a key HIV vector, related data on the location of big construction projects could perhaps form the basis of an HIV early-warning system.

IX. Concept 3: responsible architecture

Responsible architecture encapsulates the need for urban planners to work not only on large-scale structural improvements of the formally built environment, but also to target

specifically informal settlements and to combine large-scale structural improvements with structural and non-structural small-scale measures. The active use of small-scale measures could forge a better link with other development people as well as with disaster preparedness experts, which might generate further positive outcomes. The *responsible architecture* concept also attempts to express the need to integrate actively the local population into all urban planning projects. A range of publications, such as Maskrey (1989), the experiences of The Sustainable Environment and Ecological Development Society (SEEDS), and reports emerging from meetings like the first International Conference on Community-Based Disaster Management, held in Manila, Philippines, on 12–15 November 2003, reveal the importance of grass-roots action—also with regard to urban planning.²⁰

Small-scale structures

To improve present structures and technologies before importing new ones, it is important that urban planners become more aware of local knowledge, assets and the coping strategies of people at risk. These assets have to be systematised, further developed, distributed, and eventually transferred to other areas. This is crucial, as: first, people living in urban areas have often become detached from their coping mechanisms; second, existing local planning and risk reduction practices are not well recorded (Oelreich, IFRC); and third, important architectural and structural engineering work elaborated in the 1960s and 1970s, linking urban planning and risk reduction, was not well disseminated (Gavidia, UN-HABITAT).

Small-scale security and protection measures pertaining to housing and settlements can be especially critical shortly before and during disasters, since they not only have the potential to reduce risk, but also to support the efficacy of large-scale measures. In the case of flooding, for instance, small-scale structural/physical measures could be: appliances to lift objects; buried waterproof containers designed to hold drinking water or valuables; and higher platforms for emergency refuge and rescue endeavours. A further example in respect of landslides is the covering of slopes with plastic sheets to allow the rain to run off rather than be absorbed. However, this can also increase the run-off pressure and lead to an increased risk of flooding and landslides in settlements further down the slope. The simple use of bigger bolts or tied strings to attach roofs to walls in a safer way is another vital step that can be taken, as is building supporting walls using old tyres. In this context, the above-mentioned work of 'barefoot planners' offering door-to-door advice on integrated risk reduction is crucial.

Small-scale participatory planning

In addition, small-scale non-structural measures can be very efficient for the increased secureness and sustainable functioning of buildings and settlements. These include:

- The exchange of dwellings so that less mobile people can be placed in the most secure sites—for instance, the elderly, the disabled and children can be moved to higher ground within a flood area or closer to access roads.

- Awareness raising and instruction vis-à-vis the possibilities for small-scale risk reduction measures (for schoolchildren, general population, informal builders, et cetera) as part of capacity building efforts. Hereby, the different groups also have to be made aware of the risks they create (such as the use of open fire or removing sheer walls—a frequent practice to gain space, which can easily result in disasters).
- Exchange between communities living at risk: ‘it is residents talking to residents, technicians talking to technicians, and the local authority talking to the local authority that seem to work best’ (Schilderman, ITDG).
- Use of the already cited urban environment observatories along with environmental quality traffic lights, which indicate the actual environmental quality level within each community (including the existence of disaster risk). This tool is a participatory instrument, as well as an intermediary information source, linking the community and the municipal administration.
- Introduction of the concept of joint and collective public responsibility for environmental necessities, such as the maintenance of open sewage channels, to achieve long-term engagement of communities in risk reduction. In places where no community structure exists, individual work is needed.
- Technical training of local informal builders. The manufacture of model houses is a teaching mechanism and strategy successfully employed by organisations like SEEDS in India.
- Creation of micro enterprises, for instance centres for the production of local construction materials, which can be fashioned through community contracting arrangements and thus employed to provide sustainable settlements, employment and livelihoods.

Besides the measures mentioned, changes are also required to project implementation processes to reduce vulnerabilities. Such modifications include the endorsement of equal treatment of female- and male-headed households through, inter alia, the promotion of appropriate deeds of ownership. Furthermore, the selection criteria established by urban development bidding processes should be revised to promote positive economic impacts, not only at the national level, but also at the local level. For example, the rules and criteria for approval could include a quota of non-skilled labour to be contracted locally, and a ‘job–capital’ ratio, favouring labour intensive activities that do not affect overall economic efficiency. This could encourage enterprises to subcontract micro enterprises situated in low-income areas, hence also promoting the utilisation of local materials.

The livelihood approach and strategic action planning (a progression of community action planning) are tools that can help to reform the outmoded instruments and techniques of urban planning, replacing master plans with participative measures that integrate structural, non-structural, large- and small-scale initiatives, as well as illegal and low-income settlements, and allow urban planners to engage in a complex process that is organic and dynamic. The livelihood approach could be further used in combination with risk assessment, and as a multiplier to influence people to improve their building work and safety.

X. Concept 4: urban disaster governance

The proposed concept of *urban disaster governance* contains the idea of the combined domain, wherein knowledge about disaster and urban planning, and their management, is coordinated, mediated and altered through joint governance practices. The domain of *urban disaster governance* is the realm in which the interrelationship between disasters, urban planning and society becomes apparent. Therefore, adequate organisational structures and cooperation are required.

Institutional/organisational framework

To enable urban planners to become more active in governance processes, Hamza (IC) stated that ‘it needs the kind of political support to review the authority that urban planning departments have, for instance within the municipalities, because it is not a question of less or more, it is a question of inappropriate authority’. Thus, the creation of new institutional and organisational structures at all levels, which favour integrated risk reduction/urban planning, should be supported. For example, risk reduction cells could be integrated into urban planning ministries, and with regard to the internal structure of international aid organisations, focal points for integrated risk reduction within urban planning units are vital.

Cooperation

Additional legislation is needed to facilitate the institutional/organisational ‘bringing together’ of development people, disaster people and urban planners. This could be achieved, for instance, through changes to inter-agency or collaborative agreements, institutional mandates and working descriptions. Incentives should be provided to the private urban planning sector to engage in good business practices to reduce risks, while civil society organisations should be motivated to facilitate continuous communication between the private sector and the population, thus helping to support the control of the use of international resources. It has to be noted that private sector engagement and public–private partnerships are complex, and related practical challenges are often overlooked, as relatively little analysis has been conducted on this issue.²¹ From the standpoint of this paper, it is crucial however to find ways to demonstrate possible business benefits of risk reduction measures to urban planning and constructing firms.

Horizontal and vertical partnerships for risk reduction have to be established at all levels, including those of stakeholders working in urban planning. Partnerships have to be built to connect urban planners with other professionals, as well as with community groups, business associations, universities and authorities, thereby breaking down sectoral barriers in terms of professional disciplines and public–private–civil society forms of collaboration. Given that urban planning processes are an integral part of urban governance, related projects should actively target and integrate stakeholders working in urban planning.

Funding

Problems concerning the financing of integrated risk reduction/urban planning projects range from non-existent or insufficient financial support, to earmarked funding for specific non-integrated risk reduction or planning measures. The marginalisation of risk reduction and urban planning is partly responsible for this situation. In addition, urban planning projects are often perceived as too costly, while financing risk reduction does not offer the quick returns that donors and governments frequently demand.

As funding is a precondition for the implementation of the aforementioned concepts and related initiatives, national agencies require assistance to build up awareness of the connections among risk reduction, poverty alleviation and the key issues of urban planning, such as housing, land tenure, and the provision of infrastructure and basic services. The topic of risk reduction has to be built into proposals for urban planning projects, but in such a way that it fits with the current language of policymakers.²²

At the international level, first donors need to include risk reduction requirements in their financing processes and cooperation frameworks. Second, a special and transparent mechanism for apportioning resources for integrated risk reduction should be developed (for example, improved access to development budget lines). In this context, the process should guarantee that the voices of the poor are integrated into resource allocation, and the partial shift of post-disaster funding to developmental risk reduction should be facilitated (that is, for instance, the allotment of a certain percentage of the budget). Third, international funds for the specific financing of mitigation in developing countries, including measures in the field of urban planning, are also needed. The Adaptation Fund, established by the 1992 United Nations Framework Convention on Climate Change (UNFCCC), finances only those activities related to the avoidance of deforestation and combating land degradation and desertification.²³

At the national level, the decentralisation of urban planning and risk reduction structures—and related resources—should be promoted, while at the local level, co-participative funds, credit and saving arrangements could be established to support integrated risk reduction/urban planning.

XI. Conclusion

This paper reveals that mainstreaming risk reduction in urban planning confronts many of the generic challenges to incorporating risk reduction in development planning. Yet, it further faces additional barriers. The lack of integration of urban planning and risk reduction is often the consequence of the gap or even tension between disaster people, development people and urban planners, which is based on an incompatibility between their related disciplines (see Figure 2).²⁴ This incompatibility impedes the establishment of more integrated projects needed to reduce urban risks. In fact, while urban planners generally do not perceive risk reduction as part of their sphere of

activity, only a few development and disaster people have worked to identify and act on the processes and factors that lead to the accumulation of disaster risk in urban areas.

The underlying reasons for the incompatibility and consequent lack of integration lie in the historical and educational backgrounds of the distinct professional groups, resulting in different working priorities, concepts, terminologies, tools and experiences, as well as related competition and a critical perception of the working approaches and methods of other groups. Non-integration is expressed, aggravated and reinforced by the separate institutional structures and financial resources available for emergency relief and development. In addition, risk reduction and urban planning are two marginal activities within international aid organisations, thus hindering interest in a more integrated approach.

Urban planning as a tool for risk reduction

Based on the outcomes of the study, the proposed conceptual framework presents a new vision for mainstreaming risk reduction in urban planning. It is a necessary step towards reducing urban vulnerabilities, hence increasing the living standards of urban communities at risk and reducing post-disaster destruction and forced evictions. The measures and initiatives of the four concepts presented, namely *urban environmental planning*, *defensible city*, *responsible architecture* and *urban disaster governance*, can help to initiate the necessary shift in the philosophy that drives urban planning. This will assist in bringing urban planners, disaster people and development people together by moving towards an understanding of the risk that urban dwellers face, which incorporates large- and everyday small-scale disasters. In fact, urban planners require a different knowledge base and radically different skills. Diminishing risk has to become a basic principle of all urban planning projects, with special attention paid to illegal, low-income settlements and their inhabitants, who are, by dint of circumstance, involuntary 'risk takers'.

Table 1 presents a summary of proposed measures and initiatives that international aid organisations can promote, given the existing barriers and weaknesses discussed within this paper.

Broadened developmental concepts, such as 'poverty' and 'livelihoods', have shown that changed definitions can substantially influence the work of international and national organisations. Yet, the development of the presented conceptual framework is unlikely to be sufficient to stimulate greater consideration of risk reduction in urban planning. Other critical issues have to be addressed, including raising awareness of the existing situation and underlying reasons, enhancing understanding of the potential of proactive and preventive urban planning, and increasing knowledge of related measures and their application among international aid organisations to develop their capacity to utilise them.

Based on the outcomes of this study, the need for an operational framework with performance targets for integrating risk reduction into urban planning, as a tool to provide guidance for different stakeholders involved in human settlement development, became obvious and was developed in 2005–2006 (Wamsler, 2006b).

Table 1
 Concepts and measures that enable urban planning to become a tool for risk reduction

	Objective	Measures and initiatives
Urban environmental planning	To inter-connect urban planning and broader environmental development aspects, thereby linking large-scale disasters with everyday small-scale disasters	<ul style="list-style-type: none"> • Use of participative, integrated and broadened EIA. • Use of participative and broadened performance indicators for selecting and designing integrated planning measures. • Linking legal frameworks and agendas related to urban planning and environment protection. • Adaptation of planning regulations based on climatic area-specific characteristics. • Improved enforcement of integrated legal planning frameworks through: better education and payment of building control officers; vigilance by local groups; innovative low-income insurance systems; advice offered by 'barefoot planners'; creation of eco-parks; and integration of community organisations into city planning (for example, through environment observatories and environmental quality traffic lights). • Establishment of risk maps combined with databases related to urban settlement development. • Support for local studies, providing data on the inter-connection between local risk-accumulation processes and urban planning at the city, settlement, community, and housing level. • Support for bottom-up processes focusing on urban disaster risk and the promotion of safe urban environments.
Defensible city	To integrate the concept of community protection against natural disasters as a key aspect of urban planning	<ul style="list-style-type: none"> • Innovation and use of structural/physical protection, including engineering and architectural measures, for instance: the construction of disaster-resistant housing, infrastructure and services; mitigation works; and the modification of street widths, plot sizes, building arrangements, densities, and heights to reduce vulnerabilities. • Innovation and use of protective non-structural planning measures, such as: planting; evacuation plans; incentives to build safely (for example, tax inducements, exchanging rights and insurance schemes); land pooling and readjustments; and urban early-warning systems that include urban risk indicators for disaster forecasting.
Responsible architecture	To target specifically informal settlements and to combine large-scale structural improvements with participatory small-scale measures	<ul style="list-style-type: none"> • Systematisation, further development and dissemination of local coping strategies. • Small-scale structural/physical measures for increased security, for instance: buried containers for water and valuables and appliances to lift objects in the case of flooding. • 'De-professionalisation' of urban planning: work of 'barefoot planners' offering door-to-door advice on the secure upgrading of housing. • Small-scale non-structural measures for the more secure functioning of buildings and settlements. Examples are: the exchange of dwellings between low- and high-risk groups; awareness raising and teaching on the design/use of buildings; technical training of builders; joint and collective public risk reduction work; and the creation of local construction centres. • Changed project implementation processes to reduce vulnerabilities, including through appropriate bidding processes and the use of adequate deeds of ownership. • Use of tools such as the livelihood approach and strategic action planning to ensure participatory and integrated risk reduction.

Urban disaster governance	To combine knowledge and management of disasters and urban planning to create joint governance practices	<ul style="list-style-type: none"> • Support for more integrated institutional and organisational structures, for instance the establishment of integral cells and focal points for risk reduction within planning units. • Adaptation of inter-agency or collaborative agreements, institutional mandates and working descriptions etc. to facilitate institutional/organisational integration. • Promotion of good business practices for risk reduction within the urban planning sector. • Establishment of horizontal and vertical partnerships for integrated risk reduction at all levels. • Inclusion of urban planning stakeholders in urban governance projects. • Creation of a body of knowledge on how to incorporate risk reduction in developmental planning issues and related project proposals. • Inclusion of risk reduction analysis in requirements pertaining to financing processes and cooperation frameworks. • Improved international, national and local resource allocation for integrated risk reduction, for example through: the partial shift of post-disaster funding to pre-disaster risk reduction; the establishment of specialised funds for integrated risk reduction; decentralisation; and co-participative savings and credit arrangements.
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Endnotes

¹ *Natural disaster* and *disaster* serve as synonyms and as generic terms for large- and small-scale disasters as well as everyday disasters with a natural trigger. *Disaster risk* comprises three factors: hazard; vulnerability; and response capacity. The extent of people's vulnerability and response capacity influences the impact of hazards. *Risk reduction* involves measures designed to avoid (prevention) or limit (mitigation)

and preparedness) the ramifications of disasters. *Urban planning* ‘includes the way places work and matters such as community safety, as well as how they look. It concerns the connections between people and places, movement and urban form, nature and the built fabric, and the processes for ensuring successful villages, towns and cities’ (DETR, 2000, p. 8).

- ² According to the Hyogo Framework for Action 2005–2015 (see <http://www.unisdr.org/eng/hfa/docs/Hyogo-framework-for-action-english.pdf>), governments are further requested to incorporate disaster risk assessments in urban planning and the management of disaster-prone human settlements, in particular highly populated areas and fast urbanising settlements. The issues of informal or non-permanent housing and the location of housing in high-risk areas should be addressed as priorities, including within the framework of urban poverty reduction and slum upgrading programmes. Governments are also urged to ensure that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations, to implement mitigation measures to reinforce existing health facilities, and to protect and fortify critical public facilities and the physical infrastructure, especially that of schools, clinics, hospitals, water and power plants, communications and transport lifelines, disaster warning and management centres, and culturally important lands and structures through the use of proper design, retrofitting and rebuilding.
- ³ From this point on, *urban planning* will serve as an umbrella term for the developmental sectors of urban planning and housing. The term *urban planners* will serve as an umbrella term for experts of physical applied science, including architects, city and regional planners and engineers.
- ⁴ The UK Department for International Development (DFID) (2004, p. 30) states: ‘Infrastructural developments may create a false security. People are attracted to sites where hazard mitigation is in place but may be at extreme risk if these infrastructures fail—this is most commonly the case with river and coastal flood defences. High losses to flooding are frequently a result of informal and planned settlement adjacent to “safe” flood defences’.
- ⁵ The interviewees were independent international consultants (IC) and representatives of: Benfield Hazard Research Centre (BHRC) (UK); CARE International (UK); Centre for Development and Emergency Practice (CENDEP), Oxford School of Architecture (UK); Cities Alliance (US); Cranfield Disaster Management Centre (DMC), Cranfield University (UK); Department for International Development (DFID) (UK); Development Planning Unit (DPU), University College London (UK); Environment and Development Research Group (EDRG), King’s College London (UK); Geoffrey Payne and Associates (GPA) (UK); German Agency for Technical Cooperation (GTZ) (Germany); Graduate Institute of Development Studies (IUED), University of Geneva (Switzerland); Inter-American Development Bank (IDB) (US); Intermediate Technology Development Group (ITDG) (UK); International Federation of Red Cross and Red Crescent Societies (IFRC) (Switzerland); International Institute for Disaster Risk Management (IDRM) (Philippines); International Institute for Environment and Development (IIED) (UK); International Labour Organization (ILO) (Switzerland); Oxfam International (UK); Pan American Health Organization (PAHO) (US); Post-war Reconstruction and Development Unit (PRDU), University of York (UK); ProVention Consortium (Switzerland); Swedish International Development Cooperation Agency (Sida) (Sweden); Tearfund (UK); United Institute of Development Studies (IDEA) (Colombia); United Nations Development Programme, Bureau for Crisis Prevention and Recovery (UNDP-BCPR) (Switzerland); United Nations Human Settlements Programme (UN-HABITAT) (Brazil and Switzerland); United Nations International Strategy for Disaster Reduction (UN-ISDR) (Switzerland); United Nations Office for Project Services (UNOPS) (Switzerland); United States Agency for International Development (USAID) (US); World Bank (US); and WSP International Management Consulting, Ltd (UK).
- ⁶ The interviewees were selected by snowball and purposeful sampling, based on key literature and information obtained from research cooperation partners.
- ⁷ No further interviews were carried out when the same issues began to reappear, and interviewees provided no new and relevant information (theoretical saturation). Key persons’ beliefs and stated reasons were accepted as true unless discrepant evidence was encountered (triangulation).

- ⁸ The detailed outcomes of the Salvadorian case study are presented in a separate paper (Wamsler, 2006a), which together with the outcomes of the present paper further led to the development of an operational framework for integrating risk reduction (Wamsler, 2006b). In El Salvador, representatives of 33 national and international aid organisations were interviewed. In Colombia, IDEA and the municipal emergency and prevention organisation (Oficina Municipal de Prevención y Atención de Desastres, OMPAD) were the main points of contact.
- ⁹ The categorisation into ‘disaster people’ and ‘development people’ is simplistic; however, the interviewees acknowledged this categorisation as such.
- ¹⁰ All cited statements by Mr. Johan Schaar relate to a presentation during the ‘Supporting Natural Disaster Risk Reduction’ conference in London on 5 November 2003, organised by Tearfund.
- ¹¹ While five of the 24 interviewees with an urban planning background were located in the disaster divisions of international organisations, urban planning as such was not part of their field of activity. The legal and institutional structures were, among other things, said to impede cross-disciplinary and cross-sectoral work.
- ¹² These include agendas set out during (in chronological order) the United Nations Conference on Environment and Development (UNCED) (also called the Earth Summit or the Rio Summit) in 1992, the United Nations Conference on Human Settlements (Habitat II) in 1996, the International Decade for Natural Disaster Reduction (IDNDR) from 1989–99, the United Nations International Strategy for Disaster Reduction since 2000, the World Summit on Sustainable Development (WSSD) in 2002, the Monterrey Conference on Financing for Development in 2002, and the World Conference on Disaster Reduction of 2005, as well as in documents like Agenda 21 (1992) and the Millennium Development Goals (MDGs) established during the Millennium Summit of 2000 (UN-ISDR, 2002; 2003).
- ¹³ See <http://www.worldbank.org/urban/facts.html> (accessed 8 September 2004). The World Bank identifies ‘the poor’ as people who live on less than one US dollar per day.
- ¹⁴ The World Bank and UN-HABITAT launched the Cities Alliance in 1999. It was created to foster new tools, practical approaches and knowledge sharing to promote local economic development and a direct attack on urban poverty. Its activities support the implementation of the Habitat Agenda. For more information, see <http://www.citiesalliance.org/citiesalliancehomepage.nsf> (accessed 5 August 2004).
- ¹⁵ MDG 7, Target 11, also known as the ‘Cities Without Slums’ target, is one of the three targets of Goal 7 to ‘Ensure Environmental Sustainability’. The objective of Target 11 is as follows: ‘By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers’.
- ¹⁶ See ‘CSD-13: issue briefing on human settlements’, produced by Homeless International and the Intermediate Technology Development Group (ITDG), http://www.homeless-international.org/doc_docs/CSDNGOBriefing_HumanSettlements_FinalWithLogos__15Feb0525695.pdf (accessed 5 August 2004). Mitlin (2004) confirms that PRSPs fail to address issues related to the urban poor due to the way in which poverty is measured.
- ¹⁷ See <http://www1.worldbank.org/harmonization/romehlf/Documents/RomeDeclaration.pdf> (accessed 5 August 2004). According to the Rome Declaration on Harmonization, representatives of over 20 multilateral and bilateral development organisations and 50 countries decided to improve the effectiveness of their efforts to fight poverty, by working more closely together. The main message is that donor aid, however well intentioned, implies a high recipient toll in terms of transaction costs. Donors can alleviate this problem by doing more to coordinate their initiatives, harmonise (and thus reduce) their multiple requirements, and assist partner countries in taking charge of their own development process.
- ¹⁸ Transparency International’s *Global Corruption Report 2005* focuses on corruption in construction and post-conflict reconstruction. See <http://www.globalcorruptionreport.org/> (accessed 10 October 2005).
- ¹⁹ Together with the IDB, the municipality of Manizales, Colombia, is trying to implement an insurance system that covers low-income and illegal settlements, without their inhabitants paying fees. Those can be covered by the fees paid by the middle- and high-income population, once a coverage of 30 per cent of these social strata is achieved (García, OMPAD).

- ²⁰ The conference was organised by the Philippine National Red Cross and based on experiences of its project on 'Preparing for disasters: A community-based approach' (PNRC, 2002). Conference documentation was disseminated on a CD-ROM. For more information on SEEDS and its work on urban planning and security, see <http://www.seedsindia.org/Archive/arch.htm> (accessed 10 August 2004).
- ²¹ See also <http://www.unisdr.org/WCDR-dialogue/t3-summary.htm> (accessed 10 September 2004).
- ²² Depending on the specific organisation and ongoing international discussions, integrated urban planning and risk reduction can be built into project proposals in the fields of 'climate change', 'urban violence and insecurity' or other late-breaking buzzword areas in order to receive funding.
- ²³ For more information, see http://www.gm-unccd.org/FIELD/Multi/GEF/FR_Ad.htm, http://unfccc.int/cooperation_and_support/funding/adaptation_fund/items/2600.php and http://www.cevreorman.gov.tr/iklimkonferansi/pdf/1_2_Vladimir_Litvak.pdf (slide 23) (accessed 9 November 2004).
- ²⁴ Surprisingly, the research indicates that the thinking of disaster people and urban planners appears to be closer together compared to that of development people and urban planners where a strong discrepancy could be identified. This impedes the mainstreaming of risk reduction in urban planning in a post-disaster, developmental context.

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