



Programmatic directions for the Red Cross and Red Crescent in building urban community resilience in the Asia Pacific Region

**Submitted by
Earthquakes and Megacities Initiative, Inc. (EMI)**

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About the Report

This report is submitted in compliance with the contractual obligations of EMI to the IFRC Asia Pacific Zone for the project titled "Research Study to Identify Red Cross and Red Crescent Niche in Urban Community Resilience Programming in Asia Pacific." It presents the results of EMI's analytical study and provides guidance to IFRC in determining its role in urban disaster risk reduction. It also provides additional information, materials, tools, methodologies and approaches that can be included in the existing Federation DRR and response materials/tools and highlights areas that require amendment to suit the urban context.

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Red Cross & Red Crescent

IFRC Asia Pacific Zone Office
IFRC Southeast Asia Regional Delegation
IFRC China Country Office
IFRC Indonesia Country Office
IFRC Mongolia Country Office
IFRC Vietnam Country Office
IFRC Geneva
IFRC Americas Zone
IFRC Europe Zone

Red Cross Society of China
Indonesian Red Cross Society
Mongolian Red Cross Society
Nepal Red Cross Society
Philippine Red Cross
Vietnam Red Cross Society

American National Red Cross
Australian Red Cross Society
British Red Cross Society
Finnish Red Cross
French Red Cross
German Red Cross
Netherlands Red Cross
Norwegian Red Cross
Spanish Red Cross

External Organisations

Asian Development Bank

Asian Disaster Preparedness Center

Development Workshop France

Habitat for Humanity

Institute for Social and Environmental Transition

International Organization for Migration

United Nations Children's Fund

United Nations Development Programme

United Nations Economic and Social Commission for Asia and the Pacific

United Nations Human Settlements Programme

The World Bank

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Acronyms and abbreviations

ACCCRN	Asian Cities Climate Change Resilience Network
ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Center
APDMU	Asia Pacific Disaster Management Unit
APZ	Asia Pacific Zone
ARC	American National Red Cross
AusAid	Australian Agency for International Development
CCA	Climate Change Adaptation
CBAT	Community Based Action Teams
CBDP	Community-Based Disaster Preparedness
CBDRR	Community-Based Disaster Risk Reduction
CDDM	Community-Driven Disaster Management
CBHFA	Community-Based Health and First Aid
DEC	Disaster Emergency Committee
DFID	Department for International Development
DIPECHO	European Economic Humanitarian Office – Disaster Preparedness
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DW	Development Workshop
DIPECHO	European Economic Humanitarian Office
EMI	Earthquakes and Megacities Initiative
IFRC	International Federation of Red Cross and Red Crescent Societies
ICBR	Integrated Community Based Disaster Risk Reduction and Climate Change Adaptation
ISSET	Institute for Social and Environmental Transition
MNRC	Mongolian Red Cross Society
NGO	Non-Governmental Organization
NRC	Netherlands Red Cross
NS	National Societies
ONS	Operating National Societies
PDNA	Post Disaster Needs Assessment
PFR	Partners for Resilience
PMI	Indonesian Red Cross Society
PNS	Partner National Societies
SP	Social Protection
The Federation	International Federation of Red Cross and Red Crescent Societies
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN-HABITAT	United Nations Human Settlements Program (formerly UNCHS)
URRP	Urban Regeneration and Reconstruction Programme
USAID	United States Agency for International Development
VCA	Vulnerability and Capacity Assessment
VNRC	Vietnam Red Cross Society
WATSAN	Water and Sanitation

Executive summary

The defining mark of the twenty-first century will probably be, along with climate change, the great movement of human populations out of rural, agricultural lifestyles to densely built, highly diverse environments referred to as cities. Against the backdrop of rapid urbanisation, other key events continue to contribute to the urbanisation of disasters— increasing frequency of hydro-meteorological disaster events, extremely dense and unsafe built environment, inadequate infrastructure and inefficiency of local governance systems.

Urban disaster risk reduction is a long-term, low-visibility process, with little guarantee of immediate and tangible rewards. Inaction not being an option, sustainable strategic actions have proven to provide new opportunities for investing in and improving the living and livelihood conditions within at risk communities.

The RCRC is already a major humanitarian actor since most of the National Societies (NS) in the Asia Pacific Zone (APZ) are active in both rural and urban areas in a variety of programmatic areas. There is also an emerging awareness of urban risks and a heightened interest among National Societies, their partners and donors to address the needs of the most marginalised and excluded populations. The IFRC and National Societies are well-placed to make a measurable and positive impact on building resilient urban communities.

Recognising the need to evolve and to extend existing programmes and services from the rural to the urban context, the Asia Pacific Zone launched this study to identify a role for the Red Cross and Red Crescent in urban community resilience programming. The study identified four key issues that characterise existing RCRC programmes and activities in urban areas:

- 1) Most of the DRR programmes and approaches have been designed for rural communities or adapted from rural experiences.
- 2) There is limited experience in establishing systematic processes that access, gather and integrate information on city-level hazard, vulnerability and risk into programmes and policy formulation.
- 3) National Societies lack adequate experience in working with local authorities, professional organisations, private sector, academia, and other local urban actors. They are also not integrated and active in global urban DRR/CCA initiatives.
- 4) IFRC guidelines, training materials and manuals have been mostly designed for rural communities and National Societies face difficulties in adapting them to their national/local contexts.

The study proposes several strategies that can address gaps and build on RCRC strengths and capabilities as summarised in Table 1.

These key strategies provide the framework for identifying the RCRC programmatic roadmap in urban disaster risk reduction. The proposed RCRC role in urban disaster risk reduction is provided with each strategy.

The focus of the programmatic roadmap is on activities that build on RCRC core competencies, tools, and those that can leverage existing partnerships. The table below structures the proposed RCRC role in urban DRR alongside key strategies, and links

value propositions to UN-ISDR’s Ten Essentials for Making Cities Resilient (Annex 1) for possible engagement with the Making Cities Resilient Campaign.

Table 1: Summary of proposed strategies, roles and value propositions

Strategy	RCRC Role in Urban Disaster Risk Reduction	Value Propositions
<p>Multi-stakeholder Partnerships: Adopt a participatory and inclusive approach and reinforce partnerships with local authorities. Define RCRC role in Urban Risk Reduction based on country contexts and NS structure and solidify partnerships/coordination with urban stakeholders.</p>	<p>Leverage working partnerships with national and local disaster management authorities for greater access to decision-making processes for vulnerable populations.</p>	<p>RCRC should explicitly position itself as informed and neutral advocates for vulnerable and marginalized populations in the overall planning, implementation and evaluation of urban development programmes.</p> <p><u>ISDR Essential #1 on Institutional and Administrative Framework</u></p>
<p>Emergency Response and Preparedness: Build on existing core competencies in emergency response and preparedness and expand them to the urban context through a campaign to recruit/mobilise and train volunteers, especially the youth.</p>	<p>Further develop Community-Based Action Teams. Link these with the Disaster Preparedness programme of the local government to ensure sustainability.</p> <p>Focus training activities on strength areas such as emergency management and build partnerships for undertaking drills for highly vulnerable urban communities.</p>	<p>National Societies can optimise resources and increase their impact in urban areas by forging partnerships with technical agencies especially on multi-hazard risk assessment to inform their emergency response and preparedness planning.</p> <p><u>ISDR Essential #3 on Multi-Hazard Risk Assessment</u></p>
<p>Institutional Capacity: Improve existing institutional knowledge and capabilities on risk profiling and risk mapping.</p> <p>Adopt simple self-assessment and indicator tools that can quickly build knowledge and skills in the urban context.</p>	<p>Establish linkage with global initiatives such as the Making Cities Resilient Campaign.</p> <p>Build institutional capacities on risk profiling and mapping to link risk parameters to the conditions of vulnerable populations.</p> <p>Partner with technical agencies and scientific organisations to transform scientific knowledge into simple planning and risk communication tools.</p>	<p>National Societies are well positioned to serve as a bridge between the most vulnerable communities and the institutions that govern and serve them.</p> <p><u>ISDR Essentials # 7 on Training Education and Public Awareness and #9 on Effective Preparedness, Early Warning and Response</u></p>
<p>Tools Adaptation and Knowledge Sharing: Select from existing RCRC tools and experiences and adapt them for use in the urban context.</p>	<p>Focus on adapting tools that have applications on Multi-Stakeholder Partnerships, Institutional Capacity and Emergency Response and Preparedness.</p>	<p>There is a wealth of urban programming experience within the domestic section of NS in developed countries that should be shared with sister National Societies.</p> <p><u>ISDR Essentials #1, #3, #7 and #9</u></p>

1. Introduction and background

1.1. Purpose and scope

The Asia Pacific Zone of the International Federation of Red Cross and Red Crescent Societies (IFRC) launched this study in order to identify a role for the Red Cross and Red Crescent in urban community resilience programming (hereinafter to be referred to as “the study”). As a result of a competitive selection process, EMI (Earthquakes and Megacities Initiative, Inc.) was selected to carry out this task.

IFRC recognises the need to evolve and to extend existing programmes and services from the rural to the increasingly vulnerable urban context. While a scaling-up of rural community-based disaster risk reduction programmes is required, the Asia Pacific Disaster Management Unit (APDMU) together with regional and country level disaster management specialists, intends to assist National Societies build greater capacities in urban disaster risk reduction and to initiate resilience-building activities for at-risk urban communities.

The study required a comprehensive research and analysis exercise and inherently considered key elements such as climate change, preparedness, mitigation, response and early recovery. Together with a similar study carried out in the Americas Zone, the synthesis of the findings and recommendations will inform the Federation’s planned position paper on urban disaster risk reduction. Two inter-linked objectives guided the research process:

1. To analyse the urban context, existing knowledge and resources relevant to the overall purpose of this study through a comprehensive desk study, interviews with key informants and workshops with stakeholders;
2. Based on the findings of the analytical work, to develop a guidance document that will help the IFRC to determine a place for the Red Cross and Red Crescent services in urban DRR and response.

The study was completed between the period 21 October 2011 and 30 April 2012 by a team of EMI specialists in urban disaster risk reduction research, disaster risk management programming, social participation and knowledge management.

1.2. Methodology

This study utilised a ten-step analytical process to gather and analyse available data and information, and to generate input from stakeholders. These tasks are fully detailed in the study’s Inception Report. The analytical methodology provided the scientific basis for structuring the findings into key limitations (or gaps) and strengths. It also provided the framework for developing the initial strategies and programmatic activities for the Red Cross and Red Crescent.

In terms of the assessment tools for the stakeholder consultations and interviews, reference was made to the *Disaster Risk Resiliency Indicators* (EMI, 2010) and *The 10*

Essentials for Making Cities Resilient (ISDR), as both are linked to the priorities of the Hyogo Framework for Action 2015-2015 (HFA). Questions were organised along these references and took into account the RCRC mandate and its existing frameworks on urban disaster risk reduction.

The findings and observations shared herein follow a comprehensive consultation process and desktop research. The consultation process included in-person and remote semi-structured interviews with key informants and stakeholders. The field investigations involved interviews with volunteer and paid staff of National Societies in cities of three countries: Indonesia (Jakarta), Vietnam (Hanoi), and Mongolia (Ulaanbaatar) and Philippines (Manila). Additional in-person interviews with key informants took place in IFRC zone and regional offices, and with external agencies in Kuala Lumpur, Bangkok, Ulaanbaatar, and Beijing. The insights and experiences gathered during this process have largely informed the study's considerations of the operational realities of National Societies in urban areas.

2. Context and fundamentals of urban disaster risk reduction

2.1. Urbanisation and urban disaster risk

Urbanisation is experiencing radical changes and the traditional concept of cities surrounded by rural settlements is eroding. Today, urbanisation is a much more complex web of inter-connected human settlements which are referred to as City Regions (Soja, E. 2000), Rural-Urban Continuum by the World Bank or City Clusters by the Asian Development Bank.

There is no consensus on what is urban and what is rural. The physical/ geographical boundaries of urban communities are now indescribable. Suburbs have become outer cities connected to multiple urban centres. Informal settlements are growing into self-organised slum areas, also known around the world as the favelas, shanty towns, urban villages, and banlieus. The organic and unplanned nature of these settlements is creating massive issues for public authorities. It is also adding to social and economic complexities which necessitate a systematic working collaboration between national and local governments, donors, development and humanitarian organisations.

Urban areas may be towns, cities of different sizes (small, medium, mega-city), or vast urbanised regions. They are accurately associated with high disaster risks but there is no international database of disaster loss that separates data by urban and rural location (Pelling, 2007). Simultaneously, the development and humanitarian sectors are experiencing a transition where the boundaries between rural and urban work are dissolving. In today's reality, traditional spheres of activities overlap between rural and urban.

2.1.1. Defining city communities

A city is defined by its density and the texture of its economic, social and cultural identity, rather than by buildings and physical infrastructure. Cities are and have always been the place where the zeniths of culture and civilization, the achievements and failures of humanity are all displayed. Throughout history, people have come to cities in pursuit of a better life despite the uncertainties and obstacles they would have to face. Successful living in a city depends on numerous factors, many of which are beyond people's control. Regardless of known hardships, people keep coming and transforming the cities as the cities keep redefining their identities and ways of life.

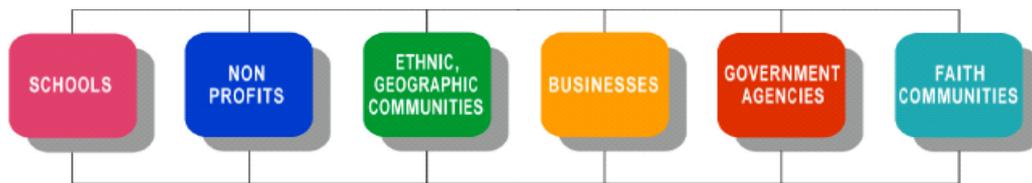


Figure 1: A Representation of different communities in urban areas, Source: American Red Cross

The word "community" means different things in different contexts. A community in an urban context is any grouping of people tied together by something common: a belief, a skill, a vision, an ideology or an activity. It can also be a few individuals tied together by a shared living or work-space, a livelihood source and a social activity, or it can be thousands of individuals tied together by a shared humanitarian, social or political vision.

The most distinctive characteristic of a community is that it embodies a set of acquired knowledge and culture, shared values and interactions between people that are transmitted through participation. In most cases these traits are invisible to outsiders, making it difficult to distinguish and access them.

Compared with small rural villages, urban communities are heterogeneous, complex and engage in sophisticated methods of interaction. The most important aspect of city communities is their sheer numbers: there can be hundreds, even thousands of co-existing communities, overlapping, interacting, and competing for influence and resources. Additionally, compared to rural communities, urban communities are also not self-sufficient. They depend on their linkages to the authorities and the general public for their relevance. Their main purpose is to exercise influence over government policy and to represent their interests in the overall urban decision making process to distribute services and resources. They build strength and relevance by association. Multiple layers of systems and power structures considerably impact the daily lives of individuals.

Urban programmes and services require that we view city communities beyond geographical boundaries, understanding that the lines separating these communities are highly flexible, based on building a common agenda, highly linked to the policy and decision-making process, and constantly seeking influence and resources in order to protect and promote their interests within the complex decision-making process.

Understandably, in this environment, the interests of the poor and other marginalised groups are under-represented. They also lack the skills to promote their interests and to push for policy and action to improve their living and livelihood conditions. The RCRC can play a critical role in promoting and supporting the interests of the urban poor and the marginalised.

2.1.2. Explaining the risks that cities face

➤ Unprecedented scale of loss: the situation cannot be ignored

Studies undertaken by EMI and other scientific organisations produce frightening risk scenarios. The known data for some of the at-risk cities illustrates unimaginable human and economic losses from moderate to strong earthquake occurrences in Tehran, Istanbul, Mumbai, Bogota, Metro Manila, Kathmandu, and others (EMI Urban Risk Paper).

For many fast growing cities in the world, the impact of earthquakes and other hazards has yet to be evaluated with a level of accuracy for reasonable disaster planning. Some of these include Delhi, Jakarta, Dhaka, Karachi, Mexico, Lima and Cairo. Losses from a large disaster in any of these megacities could overwhelm existing global infrastructure for response and rehabilitation and will have social, political and economic consequences beyond the city and the country. Mid-size cities are also growing at a fast rate and often the risks from natural disasters is not as well known and mapped as in megacities. Nonetheless, many face significant potential for damage and loss.

➤ Compounding effect on the poor and the most vulnerable: urbanisation, poverty and disaster produce tragedy

Cities are magnets for the poor seeking refuge from conflicts, looking for jobs and for more opportunities for their families. The urban poor often settle in the most hazardous areas such as river flood plains and unstable slopes. With inadequate or non-existing public services, the poor live in risky conditions and endure constant threats to their physical and psychological security. They cope with daily hardship and are continuously at risk from malnutrition, poor health care, and limited access to clean water and sanitation, inferior housing, no livelihood and illiteracy.

This ‘every-day risk’ is compounded by disaster risk, because the poor are highly vulnerable to disasters. Disasters such as floods, landslides, and earthquakes reinforce their poverty, undermine their livelihoods, and destroy their hope to provide a better future for their children. Further, disasters drive many non-poor to become poor as a consequence of losing their means of living or income provider in the family.

➤ Widening gap of social disparities

In the constant quest for influence and accumulation of wealth, the poor and marginalised are under-represented. They have little understanding of the formal processes for development and investment and have few advocates for their interests

and causes within policy-making processes. They do not constitute a viable and profitable investment for the private sector. The public sector finds it difficult to resolve their daily needs. For example, very few equitable and sustainable solutions have been proposed for resolving the chronic problem of informal settlements. In the face of this un-balanced equation of power and influence, initiatives to improve the living and livelihood conditions of the poor face constant inefficiency and inadequate resources.

Social disparities aggravate vulnerabilities and further widen the social divide in the urban development process. The poor and marginalised find very few advocates and partners that can further their causes and interests in the complex policy making process. Conflicting approaches continue to erode trust between the poor and their governing institutions. Yet, there are tremendous gains to society by offering opportunities for development and for integration to the marginalised communities. Constructive, participatory and inclusive approaches can build the necessary trust and lead to workable solutions, turning liabilities into assets.

➤ Delay will be more costly and more difficult to resolve

The risk trend is going in the wrong direction: urbanisation, poverty and risk are spiralling out of sight. Inaction brings more complication of the problem, accumulates risk, and creates a perpetual future need for investments that are significantly costlier than those needed now. A growing body of knowledge and expertise now exists about how to protect urban populations and physical assets, but the knowledge must be shared and applied in order to stem the explosion of risk in large cities.

Incremental steps will not suffice; significant focus and resources must be put into place. Conditions for investments need to be developed through consensus building among the stakeholders and understanding of trade-offs and benefits and costs. This requires truly participatory processes where the interests and constraints of all concerned stakeholders are discussed in a transparent governance process. The challenge is to formalise the informal process through trust building, knowledge sharing, consultation and solution-driven engagement. There are enough examples globally on how the trend of urban vulnerability can be reversed.

➤ The problem has been neglected: most cities, particularly in the developing world, are not effectively managing their risk

Cities have largely neglected dealing with disaster risks and contributory factors such as poverty and rapid urbanisation. And national governments and international organisations have chronically neglected the cities. Significant resources have been committed for rural and community-based projects where the association with poverty reduction is typically undisputed and there is clearer evidence of outcome. The premise has been that cities have the capacity to address risk on their own. It is now clear that most cities, particularly in the developing world, are ineffective in managing their risk; and the risk is high and continuously rising. Inefficiencies of governing systems, inadequate distribution of resources, and lack of consultation and effective engagement constitute some of the root causes of urban risk accumulation.

- Poorly-planned and un-planned urbanisation create devastating effects: the rural poor are migrating to the cities and becoming the urban poor

Unplanned and rapidly exploding growth of cities is overwhelming government institutions. The rural poor are migrating to the cities and becoming the urban poor. Much of urban expansion is haphazard, far exceeding the capacity of cities to adequately plan and control development, land use, and construction. Up to 50-70% of the construction is informal or illicit. Compounded by inadequate construction standards used with little regard to earthquakes and other hazards, millions of people are placed unnecessarily in harm's way.

Civic services are overloaded, intensifying inequalities in standards of living. Inadequate public services and health facilities have become the norm for large segments of urban populations in developing countries. Cities are unable to provide adequate infrastructure and basic services throughout these expanding areas. Ultimately, uncontrolled urbanisation has often fed the growth of slums, reinforced poverty, reduced community resilience, increased disaster risk, and diminished cities' ability to deal with disasters.

- Lack of favourable institutional arrangements: local authorities do not have comprehensive rules and regulations for dealing with disaster risk reduction

In most developing countries, legislative and institutional arrangements inhibit rather than enable local action. While it is recognised that disasters are initially local events, accountability, authority and resources are not sufficiently decentralized to enable local governments to assume ownership and take actions to understand and manage disaster risk effectively.

Most local authorities do not have comprehensive rules and regulations to dictate processes and obligations for disaster risk reduction, nor do they have adequate knowledge of disaster risk considerations. Institutional arrangements and mechanisms for disaster risk reduction interventions are often weak. While linkages of disaster risk to development are acknowledged, growth management tools (e.g., land use planning, zoning, etc.) are not risk-sensitive. Urban re-development, a main tool for urban rejuvenation, remains under-utilized in poor neighbourhoods. Slum rehabilitation programmes are often ineffective because they adopt a fragmented approach and often do not link living and livelihood conditions as part of the solution.

- Insufficient knowledge, experience and tools: it takes effort, tools and training to assimilate disaster risk reduction into planning and resource allocation

Disaster risk reduction is complex and few administrators have experience in DRR implementation. City officials are already heavily burdened in serving the often conflicting requirements of their populations and delivering these services through complex administrative structures. It takes time, effort, tools, and training to assimilate disaster risk reduction in city functions and on-going operations. Add these factors to the human inclination to think that disasters only happen elsewhere, to someone else, and it is understandable that disaster risk reduction is inadequately incorporated in the management and development of cities.

➤ Lack of political feasibility: pre-emptive risk management

Disaster risk reduction is a low priority at all levels of the public policy agenda of governments. Authorities think of risk as something to deal with when a disaster strikes with emergency response and humanitarian assistance. But risk must be managed pre-emptively. The political gains from investment in disaster risk reduction need to be considered despite possible negative intonations of disasters on business, real estate development and tourism. Disaster risk reduction, when based on knowledge and participatory processes can lead to capital investments and sustainable development.

➤ Lack of resources and capacity: few relevant capacity building programmes exist for those who govern

Cities have inadequate capacity in disaster risk management, especially in view of demands from citizens for vital services for their day-to-day needs. The scarcity of financial resources is compounded by a significant gap in understanding what needs to be done, why and how to do it.

Few relevant capacity building programs and convincing case studies exist for those who govern, plan, build, maintain, and support cities' development and management. As a result, the mainstreaming of disaster risk reduction at the local level remains a vague concept with little capacity and few mechanisms for implementation.

➤ Inadequate preparedness: the obstacles to urban disaster risk reduction are interrelated and require an inclusive approach

Cities are traditionally ill-prepared for disaster events. Response, relief, recovery, and rehabilitation practices following urban disasters are grossly inadequate. Significant deficiencies remain throughout cities in terms of inter-institutional coordination, communications networks and warning systems, incident command and control, and resources for response.

2.1.3. Cities and climate change

Climate change is aggravating the impact of climate-related hazards particularly those related to temperature and precipitation changes, which, in turn, bring forth environmental health risks. The impacts of climate change should be cause for grave concern in urban regions as they are likely to multiply existing vulnerabilities: close to 1.2 billion people reside along low-lying coastal areas, many of which can be found in the world's booming megacities. The consequences of climate change will become disproportionately damaging with increased warming. Higher temperatures increase the chance of triggering abrupt and large-scale changes that lead to regional disruption, migration and conflict. Warming may induce sudden shifts in regional weather patterns such as the monsoon rains in South Asia or the El Niño phenomenon.

Climate change presents serious global risks with profound long-term implications. Current projections establish that sea levels will rise to at least 50 centimetres by 2050.

This will bring with it increased storm and flood damage, increased coastal erosion and salination of surface and ground waters.

2.2. The Paradigm Shift: from Response/Crisis Management to Disaster Risk Management (DRM)

Disaster Risk Management refers to a set of actions that aim to achieve the objective of reducing risk. These can include disaster management measures such as preparedness/response and a proactive approach to address disaster risks through—

- ✓ Understanding the nature of hazards
- ✓ Developing scenarios to understand the impact of various potential events
- ✓ Planning ahead to get ready before disaster strikes
- ✓ Integrating operational processes to manage post-event situations with functional processes to protect assets, minimize disruption of services, and improve the overall safety and welfare of the population (Figure 2)

The objective is to build disaster resilient cities where population, communities and institutions are advocating and pursuing a culture of safety (source: EMI DRMMP Handbook). It is a process that brings a large constituency of stakeholders together to adequately represent and address DRM issues, and sketch the strategies and approaches.

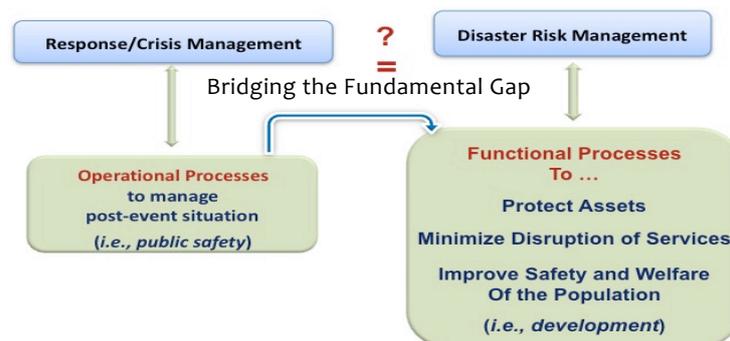


Figure 2: The Shift of Paradigm from Response/Crisis Management to DRM
(Source: EMI)

➤ Evolution of Disaster Risk Management

DRM is based on the notion that disaster is not inevitable; its impacts can be managed and reduced through appropriate development actions. It involves a range of measures associated with building the resiliency of essential services, critical infrastructure, and communities as a whole to be able to respond, cope and adapt to adverse conditions. Ultimately, DRM strategies and actions are meant to contribute to the safety and well-being of communities and to protect local development gains. (EMI, 2005) Below is a summary of the shift from crisis/response management to disaster risk management.

Table 2: Evolution from Crisis/Response Management to Disaster Risk Management

From Product (Crisis/Response Management)	To Process (Disaster Risk Management)
Risk assessment equals risk management	Risk assessment is part of risk management
Exclusive science/ technical approach	Inclusive participatory approach
Single institution task	Multi-institutional enterprise
Risk as a sectorial implementation issue	Risk as a multi-sectorial coordination issue
Risk as an agency-specific issue	Risk as a whole-of-society issue

Source: EMI DRMMP Handbook (adapted from AS/NZ standards)

➤ Mainstreaming concept

Mainstreaming is essential to accomplishing urban disaster risk reduction. It refers to the process of incorporating the practice of risk management within the governance, functions and operations of public and private institutions. For local authorities, this translates into having processes and practices that incorporate disaster risk reduction in key functions such as land use and urban development planning, construction and building licensing, environmental management, and social welfare as well as in the services that they provide or regulate. Mainstreaming is a long term and difficult process. But, it can be better accomplished if the roles of the stakeholders are recognised: (A) Central authorities: enact policy and regulations, allocate resources, provide oversight and control, coordinate and evaluate; (B) Civil society: active engagement and constructive participation; bridging the gap in participation; and (C) Local authorities: planning and implementation of disaster risk reduction.



Figure 3: EMI Mainstreaming Approach with Indicative Roles

➤ Local mainstreaming

The success of any national and international DRM initiative depends to a great extent on the success of their implementation at the local level. The role of local authorities is explicitly recognised in the Hyogo Framework for Action (HFA, ISDR, 2007, Words Into Actions: A guide for implementing the HFA 2005-2015). It is also based on the premise that effective local action is critical to success in the

implementation of government DRR policies and programmes. Local authorities and local communities are the primary resources to implement and support the disaster reduction strategies driven by policymakers.

➤ Building resiliency to hazards

Behind the goal of shifting from reactive post-disaster rescue and relief actions to pro-active risk reduction actions lies the will to improve urban population's resiliency to disasters. The impact of natural and man-made hazards can be reduced through specific mitigation measures that minimise the human, economic and environmental damages. Inherent to the concept of resiliency is the fact that poverty and lack of resources increase vulnerability; and in some communities buildings and industries are more vulnerable than others. These must be identified in order to formulate relevant policies and take appropriate actions adapted to actual needs.

2.3. Understanding and linking to the global context

In the last two years, the implementation of the HFA has focused on urban risk resiliency through the launching of the UN-ISDR "Making Cities Resilient: My City is Getting Ready 2010-2015". The Campaign is built as the main thrust for the UN disaster risk reduction agenda with strong linkages to climate change adaptation initiatives. Currently, about one thousand cities have signed up and several international organisations are partnering with the main organisations of local authorities. The Campaign is providing tangible contributions to cities through provision of tools and methods that help them move forward with DRR activities:

- ✓ "How to Make Cities More Resilient: A Handbook for Local Government Leaders" is meant to be a practical resource on how to implement the Ten Essentials and to get started in planning and implementing DRR initiatives at the local level.
- ✓ "Local Government Self-Assessment Tool" (LG-SAT) provides key questions and measurements against the Ten Essentials and builds upon the priorities and national indicators of the Hyogo Framework for Action.

Additionally, UNISDR has developed an online system and template in consultation with several partners and local/national government representatives. The Campaign aims to become a major focus for government, donors, the UN System and international organisations by guiding future activities and investments in DRR.

2.4. Disasters and DRM in the Asia Pacific context: focus on the cities of Jakarta, Hanoi, and Ulaanbaatar

The Asia-Pacific is among the most disaster prone regions in the world. (UNESCAP, 2011) The region accounts for only 30% of the world's landmass but receives disproportionately higher disaster impacts. The following table presents a comparison on the number of people killed and affected across the different regions and which shows a consistently high trend in the Asia region from 2001 to 2010.

Table 3: Total number of people killed and affected by region (2001 to 2010)

	Africa	Americas	Asia	Europe	Oceania	TOTAL
Killed	44,610	257,220	863,279	146,506	1,568	1,313,183
% of Total	3%	20%	66%	11%	0%	
Affected	314,116,000	84,959,000	2,268,070,000	8,043,000	1,228,000	2,676,416,000
% of Total	12%	3%	85%	0%	0%	

Adapted from World Disasters Report 2011

In terms of the number of reported disasters per region, Asia Pacific again ranks high across the world on total number of reported disasters. Below is a summary of the reported disasters covering the period of 2001 to 2010.

Table 4: Total number of reported disasters by region and type (2001 to 2010)

	Africa	Americas	Asia	Europe	Oceania	TOTAL
Droughts/food insecurity	131	56	60	11	2	260
Earthquakes/tsunamis	24	43	170	35	12	284
Extreme temperatures	3	39	59	137	2	240
Floods	442	357	686	256	51	1,792
Forest/scrub fires	12	47	14	38	10	121
Insect infestation	13	n.d.r. ¹	1	1	1	16
Mass movement: dry ²	1	3	2	n.d.r.	1	7
Mass movement: wet ³	16	38	126	10	6	196
Volcanic eruptions	7	23	19	2	11	62
Windstorms	86	343	398	149	68	1,044
Total	735 18%	949 24%	1,535 38%	639 16%	164 4%	4,022

Adapted from World Disasters Report 2011

¹ 'n.d.r.' signifies no disasters reported² Landslides, rock falls, subsidence, etc. of geophysical origin³ Landslides, avalanches, subsidence, etc. of hydrological origin

The risk for economic loss in East Asia and South Asia is increasing because reductions in vulnerability are not offsetting rapidly increasing exposure. This is particularly the case in tropical cyclones. Figure 4 below provides a comparison of percentage change in economic loss risk across the different regions.

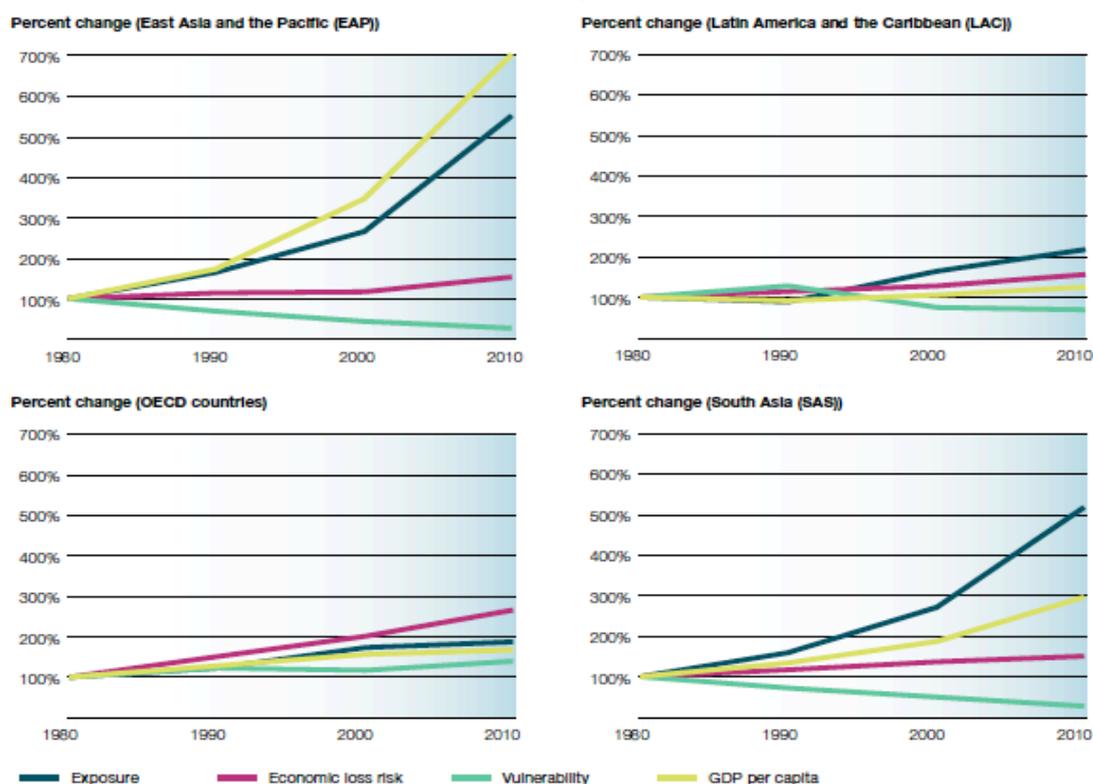
Increasing urbanisation has led to poorly planned if not unplanned settlements—a major driver of disaster risks. Between 2005 and 2010, the urban proportion of the world's population overtook the rural proportion—rising from 49% in 2005 to 51% in 2010.

Asia and the Pacific, the second least urbanised region in the world, had an urban proportion of 43% in 2010 up from 33% in 1990. Of the world's 21 mega-cities in 2010, 12 were in Asia (a mega-city is defined as having more than 10 million inhabitants). In 2005, 65% of the urban population in the region's least developed countries lived in slums and under insecure circumstances.

The region's urban population in slums have unclear property ownership and unsteady basic social services when available. Most reside in unstable locations such as waterways, hills, or garbage dumps. There is also an apparent neglect by national and local governments, even by most international agencies, because of the misperception that urban areas have the capacity and resources to address their own risks.

The combination of poor development, lack of access to services, unstable living conditions, and neglect by authorities are increasing the disaster risks of urban areas in the Asia Pacific region.

Figure 4: Percentage change in economic loss risk, exposure and vulnerability to tropical cyclones in East Asia and the Pacific, South Asia, Latin America and the Caribbean, and OECD countries as modelled, 1980-2010 (compared to baseline year 1980)



Source: 2011 Global Assessment report on Disaster Risk Reduction

2.4.1. Jakarta, Indonesia¹

With a population of 15 million, Jakarta is the largest city in the country. Jakarta is an equatorial metropolis located in the southern hemisphere on the island of Java. The total area of the Jakarta metropolitan region is about 7,700 square kilometers, while the city has an area of approximately 660 square kilometers. The city is divided into five administrative units, each with a local government headed by the mayor. The main responsibilities related to planning are vested with the provincial government, as is disaster management.

Jakarta has moderate risk of earthquakes due to the distance from the most active inter-plate boundaries but has a much higher risk of flood disasters because more than 40 percent of the city is situated below sea level. The 13 rivers that pass through the province add to the city's flooding risks. Different low-lying parts of the city experience flooding on an annual basis resulting in disruption of local economic and social activities. The flooding is due to the accumulation of rainwater as well as to incursion of seawater, since the seawall protecting the low-lying areas has been breached at some locations. Jakarta is experiencing very rapid growth, and rapid development is taking place on the alluvial coastal plains. Several parts of the coastal plains are experiencing subsidence of around two to three centimeters every year.

Indonesia is highly vulnerable to different natural disasters. The country is located along major subduction zones and frequently experiences devastating earthquakes and volcanic eruptions. It also experiences several hydro-meteorological disasters at regular intervals. Due to the concentration of population in Jakarta, as well as its political and economic significance, disasters in Jakarta have very high impact on the affected people, as well as the country as a whole. Following the 2004 Indian Ocean tsunami, the disaster management system in the country was revised, and disaster prevention has been accorded high priority. The revised Disaster Management Law emphasizes the integration of disaster management planning with development policies to ensure that the resilience of the country is improved.

2.4.2. Hanoi

Vietnam is listed as 22nd among countries with relatively high mortality risk from multiple hazards. It is affected by nine types of natural hazards; with typhoons, flooding, and storm surges being the most frequently occurring due to the country's being located in an area of Southeast Asia frequently affected by tropical monsoons. Hailstorms and tornados, drought, landslides, and flash floods also occur with moderate frequency, while earthquakes and frost or damaging cold are considered low frequency events². It is estimated that natural disasters cause an average of 750 deaths annually, with yearly economic losses equivalent to 1.5% of GDP. With a large portion of the population concentrated in coastal areas and river basins, it is estimated that 70% of the population, or approximately 61 million people, are at risk from various natural hazards³.

¹ <http://www.cityriskpedia.com/?title=Jakarta>

² Global Facility for Disaster Reduction and Recovery (GFDRR), Disaster Risk Management Programs for Priority Countries, Washington, D.C., 2011

³ Ibid

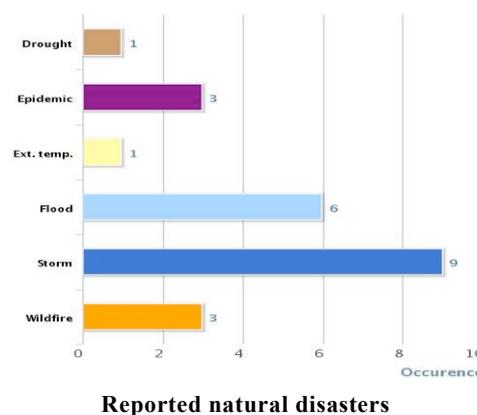
The capital city of Hanoi is composed of 10 urban and 18 rural districts, and also includes one town within its jurisdiction⁴. The metropolis covers an area of 3,344 square kilometres, with a population of approximately 6.5 million people⁵. It is situated in the Red River Delta, a major agricultural region in northern Vietnam with high concentrations of population, housing, industrial and commercial enterprises, and critical infrastructure⁶.

Six to eight typhoons strike the country each year between the months of May and December. Hanoi is particularly vulnerable to the impact of these tropical cyclones, as it is located in the northern section of the country, an area more highly exposed to extreme weather events than central or southern parts of Vietnam. River plain flooding is also a major problem in the Red River basin during the monsoon season, as the majority of rivers in Vietnam are relatively short and steep, producing intense short duration floods⁷.

Although Vietnam is considered to be less vulnerable to earthquakes than other countries in Southeast Asia, the northern region of the country, which includes Hanoi, has low to moderate seismicity, with three fault systems present in this area. These faults are capable of generating earthquakes of magnitude 5.7 to 7. Since 1900, there have been at least 117 earthquakes of magnitude 4.6 or greater, with two quakes of magnitude 6.7 and 6.8 occurring in 1935 and 1983, respectively⁸. An earthquake close to the area of the Red River Valley would lead to high economic losses due to the significant number of people, housing, infrastructure, and industries in the vicinity of Hanoi that would be affected⁹.

2.4.3. Ulaanbaatar, Mongolia

Mongolia's human and economic exposure to natural disasters is relatively low. From 1980 to 2010, the country only experienced 23 natural disasters¹⁰. These events killed a total of 268 persons or an average of 9 people per year, and resulted in total economic losses of approximately US\$ 1.9 billion or an annual average of US\$ 63.7 million¹¹, which is roughly 1.4% of Mongolia's current GDP¹². The main natural hazards affecting the country are storms,



⁴ Vietnam National Administration of Tourism, [Provinces and cities](http://www.vietnamtourism.com/e_pages/country/province.asp?mt=844&uid=2678), retrieved on Feb. 15, 2012 from http://www.vietnamtourism.com/e_pages/country/province.asp?mt=844&uid=2678

⁵ General Statistics Office of Vietnam, [Population and population density in 2010 by province](http://www.gso.gov.vn/default_en.aspx?tabid=467&idmid=3&ItemID=11728), retrieved Feb. 15, 2012 from http://www.gso.gov.vn/default_en.aspx?tabid=467&idmid=3&ItemID=11728, 2010

⁶ Global Facility for Disaster Reduction and Recovery (GFDRR), [Weathering the Storm: Options for Disaster Risk Financing in Vietnam](#), Washington, D.C., 2010

⁷ GFDRR, 2010

⁸ United Nations, Vietnam, [UN-Vietnam Factsheet on Earthquakes and Tsunamis in Vietnam, 2011](#)

⁹ Global Facility for Disaster Reduction and Recovery (GFDRR), [Weathering the Storm: Options for Disaster Risk Financing in Vietnam](#), Washington, D.C., 2010

¹⁰ Preventionweb, [Mongolia – Disaster Statistics](http://www.preventionweb.net/english/countries/statistics/index.php?cid=115), retrieved Feb. 15, 2012 from <http://www.preventionweb.net/english/countries/statistics/index.php?cid=115>, 2011

¹¹ Preventionweb, 2011

¹² Ibid

floods, wildfires, extreme temperature events, and droughts, with the first three being the most frequently occurring. Numerous active faults also run across Mongolia and the country has experienced four earthquakes greater than magnitude 8.0 in the last century. However, Mongolia's low population density has contributed to minimal impact from seismic events¹³.

Ulaanbaatar is Mongolia's capital and also the country's largest city. Located in the northern portion of central Mongolia, the city covers an area of 4,704 square kilometres and hosts a population of 1.16 million people. Ulaanbaatar produces 40% of the country's GDP and is the central hub for all of Mongolia's transport networks.¹⁴

Although seismicity is relatively low in the vicinity of Ulaanbaatar, several faults have been discovered in recent years within 200 kilometres distance from the city. With rapid urbanisation and inadequate construction standards, the city's greatest hazard is the vulnerability of its built environment to earthquakes. Furthermore, as Ulaanbaatar is situated on the fluvial sediments of the Tuul River, large portions of the city may experience liquefaction and intense ground shaking aggravating the potential for damage and loss of life from earthquakes¹⁵. With its aging and poorly maintained drainage facilities and low quality houses, Ulaanbaatar is also vulnerable to intense flooding and storms¹⁶.

2.5. Regional DRM initiatives by external agencies in Asia Pacific

Establishment of the Hyogo Framework for Action (HFA) in January 2005 resulted in increased attention to policy planning for disaster risk management. Since then significant work has been made in many countries to establish national platforms and to strengthen legislative frameworks for disaster risk management.

Many countries are also implementing disaster mitigation, risk reduction and climate change adaptation programmes at provincial and/or regional levels. These include mainstreaming of DRR into national policy and legislation, strengthening of DRM capacities at the national level, establishing early warning systems, flood prevention and community-based DRR. The majority of these activities are co-funded by international development agencies and donors and are implemented in partnership with central and local government agencies as detailed below. The external funding agencies working with government agencies increasingly seek to ensure participation of communities in the planning and implementation of the disaster preparedness and risk management programmes.

¹³ Dorjpalam, S., Kawase, H., Ho, N., Earthquake Disaster Simulation for Ulaanbaatar, Mongolia Based on the Field Survey and Numerical Modeling of Masonry Buildings, paper presented at 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada. 2004

¹⁴ Dorjpalam, S., Kawase, H., Ho, N., Earthquake Disaster Simulation for Ulaanbaatar, Mongolia Based on the Field Survey and Numerical Modeling of Masonry Buildings, paper presented at 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada. 2004

¹⁵ Dorjpalam, S., Kawase, H., Ho, N., Earthquake Disaster Simulation for Ulaanbaatar, Mongolia Based on the Field Survey and Numerical Modeling of Masonry Buildings, paper presented at 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada. 2004

¹⁶ UN-HABITAT, Ulaanbaatar, Mongolia, 2010

For instance, in 2007 with support from UNDP, the government of Vietnam initiated community-based disaster risk management (CBDRM) for implementation in mostly rural areas. The programme focused on supporting disaster preparedness and response capacities at the provincial government level. As a result, the government trained large numbers of trainers in each province and these trainers are now capacitating staff of local governments and the Red Cross branches. This on-going programme encourages national and provincial governments to ensure greater participation from the community.

Many urban DRR/CCA programmes include an explicit livelihood component. Recognising the vital importance of a stable income for urban residents, the programmes support activities such as teaching entrepreneur skills, income generation schemes, and include micro-credit components. A profile of current urban DRM programmes and projects of major external organisations are listed in Annex 5.

3. Key findings and analysis

3.1. Key findings and observations from field investigations to Jakarta, Hanoi, and Ulaanbaatar

Annex 5 of this report provides a detailed summary of the findings from the field investigations to the cities of Jakarta, Hanoi, and Ulaanbaatar. They are organised along the different elements of the UNISDR’s Ten Essentials for Making Cities Resilient. This can demonstrate where IFRC’s efforts at urban DRR are located within the context of broader global campaigns. Within the context of the Ten Essentials, the following presents a synthesis of findings generated from the field investigations.

Table 5: Summary of key findings generated from the field investigations

Institutional and Administrative Framework

- To work in urban areas, RCRC has to find new ways of defining communities and adapt to the changing social dynamics in cities. Compared to a vastly homogenous rural population, an urban society is heterogeneous and complex in its socio-cultural characteristics that require a change in strategy and to acquire new organisational skills. Existing programmes can be extended to urban areas but this will require a different approaches. The existing tools need to be reworked and become relevant to urban areas.
- NS need to work even more closely with local governments and with special urban development programmes that focus on the poor and marginalised (slum rehabilitation).
- Working in cities requires collaborating with a wide range of partners and the overall capacities for partnership need to be strengthened. Generating evidence through scientific information and evidence facilitates changes in mass perceptions. To do this, RCRC needs to build collaborative partnerships with professionals, universities, research institutions and the private sector.
- Urban DRR is a new area for RCRC. Working in this field requires not only collaboration, but also a clear strategy and the relevant organisational skills to strengthen the role of NS in

bridging urban risk reduction between national and community levels. NS require technical assistance from IFRC in formulating new strategies, building skills and orienting programmes.

- A good starting point for choosing a DRR direction is an overview of what working partnerships already exist between the National Societies and local disaster management authorities. Focus could be in 1) preparedness and contingency planning (emergency management, search and rescue, local action response teams); and 2) health promotion (dengue program, avian influenza, and others).
- Scaling up NS programmes in urban areas requires building upon what they are good at. The NS should independently decide what they want to do free of external impositions. Partners can play a key role in assisting NS to establish sustainability and ownership criteria as core values for intervention. Otherwise when the funding ends, the programmes end.

Financing and Resources

- NS depend significantly on external funding and technical assistance, which has an impact on the sustainability of projects, as these are typically discontinued once these resources are no longer available. Resource generation for projects is often undertaken by PNS and the IFRC rather than by NS.
- RCRC has limited knowledge about the availability of resources for work in urban areas, such as those available through local government units, professional organizations, academia and the private sector. Establishing partnerships with local authorities can guide NS on how to access existing resources. Capitalising on the high interest and awareness in health and first aid in urban areas, the NS can effectively engage in commercial first aid trainings which are likely to provide a sustainable income-base.

Multi-Hazard Risk Assessment

- The RCRC can address the existing information gap on household vulnerabilities through community-level assessments that complement and supplement broader efforts by local and national government in DRM planning.
- IFRC needs to employ strategies that directly support National Societies in developing their own context-appropriate tools and their in-country capacities to interpret and apply assessment results to prioritising RCRC programmes and services.

Infrastructure Protection, Upgrading and Resiliency

- Water and sanitation projects are one key area where RCRC can make an impact in urban areas, as access to safe water and hygiene facilities are a major concern in slum areas and informal settlements.

Building Regulations and Land Use Planning

- RCRC can focus on the situation of rural migrants, as well as those of the people living in peri-urban area. Some NS already have services for migrant populations such as registration and documentation which enables them to exercise their legal rights. Other entry points include small health initiatives such as TB care and prevention. RCRC health services directly benefit the population, establish trust and facilitate expansion of urban DRR work.
- Housing is a major issue for migrants but the NS are reluctant to get involved in this area as there is a possibility for conflict with government over issues of tenure and ownership.
- RCRC is in a good position to work towards promoting tolerance and countering discrimination against migrant populations. NS can advocate for proper and safe urban spaces for poor people, women and the disabled such as clean and accessible public restrooms, well-lit and clean parks with playgrounds, and public buses accessible by the disabled.

Training, Education and Public Awareness

- Risk awareness is a major issue in countries that have not experienced major disasters yet. RCRC must focus on a region-wide, large-scale and long-term advocacy strategy that aims to create a culture of prevention and safety. Currently, awareness on urban risk and related issues is more at the personal rather than the societal level.
- RCRC is popular, well-respected and has the capacity to undertake large-scale urban awareness campaigns by focusing on the youth. Such campaigns ultimately create a demand for learning. A way for awareness-raising and marketing to the youth is through the full use of social media.
- Raising urban awareness and mobilising people requires a valid understanding of a city's conditions, unbiased information, and a sense of partnership and co-ownership of programmes and services by the targeted populations. One key reality in cities is that interest on economic advancement is more relevant than interest in social work and this element must be integrated in the design of urban awareness raising campaigns.
- Livelihood support and vocational courses are needed in urban areas. RCRC can offer regular refresher courses on emergency response for volunteers and other first responders. These types of services are often viewed positively by local authorities and the private sector and promote an income base for National Societies. A mechanism for sharing experiences between different city groups can also be developed to scale up DRR across community lines.
- Training on advocacy, negotiations, and planning for communities will also be required. Negotiation is particularly needed considering the need to balance and manage the interests and expectations of diverse stakeholders in the urban setting.
- NS require further capacities in mapping stakeholders, their respective roles and responsibilities. Capacity to do policy mapping is also necessary, but this comes from a good understanding of urban policy making processes. Training on report writing should also be given to communities since this can free up time of district and provincial level staff. Internally, training is needed in proposal writing, networking with other stakeholders, and fund raising to sustain project initiatives.

Environmental Protection and Strengthening of Ecosystems

- Community-based activities such as the cleaning of causeways to prevent flooding could provide broad support from the community and the local authorities, with the possibility to involve the youth and schools (possibly incorporating in school activities).

Effective Preparedness, Early Warning and Response

- Several NS are already undertaking disaster preparedness activities with the support of PNS. These include awareness raising activities and trainings for households, schools, medical facilities, private companies, and government agencies. Light search and rescue, first aid training for neighbourhood volunteer teams, and the establishment of early warning systems can constitute core urban activities for National Societies.
- Disaster preparedness should encompass information on the spread/control of infectious disease in urban areas. Existing RCRC health programmes and local health posts can serve as effective DRR entry points.

Recovery and Rebuilding of Communities

- Two existing areas are identified as entry points for high impact urban DRR in slum areas. First, patient care including programmes for HIV/AIDs and TB patients, whose numbers are on the rise; and second, social protection such as microcredit for debt relief or micro-health insurance.

3.2. Overview of relevant tools in urban disaster risk reduction

3.2.1. Analysis of RCRC tools for urban disaster risk reduction

What follows is a summary analysis of select key tools in terms of their adaptability to urban programming and contexts. These tools were analysed with respect to their adaptability to urban contexts using the following categories: *low adaptability, some/medium adaptability, and high adaptability*.¹⁷

Table 6: Summary analysis of RCRC tools as relevant to urban DRR

1. Community-Based Disaster Risk Reduction (CBDRR)

A training course that provides field practitioners with practical tools for design and implementation of programmes that reduce disaster risks and vulnerabilities and building of community capacity to promote a culture of safety.

Adaptability to urban contexts

- Provides a solid basis for understanding basic concepts of hazard, disaster, risk, vulnerabilities, and DRR.
- Explains conceptual relationship between disaster and development and steps of mainstreaming DRR into development programmes.
- Provides characteristics of safer, more resilient communities.
- Provides information on code of conduct in disaster relief and other basic approaches and policies of IFRC.
- ***Low adaptability level to urban work***

Required Adjustments

- It is designed for rural areas. In lieu of modifying the existing material, it is recommended to create a new training course on General Concept and Applications of Urban DRR with a clear focus on urban realities.
- There is a need to integrate a strategic move from community-based approach to participatory inclusive approach where all stakeholders (i.e., community, local authorities, private sector, service providers, professional organizations, and others) have a role and responsibilities in forging a solution and can build a common agenda.
- Besides urban disaster risk and vulnerabilities, the daily livelihood struggles of urban populations, especially communities living in illegal housing areas, should be given emphasis in developing the new material.
- The concept of urban resiliency should be explained and emphasised with examples.
- The analytical process should incorporate proper identification and classification of power and influence in urban communities.
- Gender roles in rural and in urban areas should be taken into account (women are more likely to go out to work, make an independent living and be the primary bread winners in urban areas.).
- Role of children and youth in urban context must be incorporated, mainly in terms of

¹⁷ **Low adaptability:** The material is primarily designed for rural communities in terms of content and the operational framework; it will offer limited value in urban areas. **Some /medium adaptability:** Although the material is originally designed for rural communities, the content and the operational framework can be modified for urban areas with recommended adaptations. **High adaptability:** The material can be used both urban and rural areas with the recommended adaptations.

turning their potential towards serving their communities.

2. Vulnerability and Capacity Assessment (VCA) Toolkit

A basic tool which can be applied at different levels to map local threats and the resources – including community resilience – available for mobilisation in disaster management.

Adaptability to urban contexts

- Enables communities to participate in identifying their vulnerabilities and risks as well as recognising their capacities to tackle these risks.
- Information coming from VCAs can inform other urban stakeholders.
- Provides opportunity for IFRC staff to directly engage with beneficiaries.
- The technical skills required for planning, facilitating and interpreting the results of the VCA process could be found more easily in urban areas.
- ***Some adaptability level to urban work***

Required Adjustments

- VCA Process should be reviewed to take optimum advantage of existing information on hazards, vulnerability and risks available from technical and scientific organizations.
- Techniques for risk mapping (e.g., GIS) should be integrated to enable efficient knowledge sharing internally and with external stakeholders. (Open source, non-technical GIS tools are available and could be easily integrated within NS's skills)
- VCA tool should have functionality to integrate existing information available from a wider set of stakeholders (not just the community as the beneficiary): local governments' (e.g., development plans; local investment plans for poverty reduction, etc.); as well as plans from service providers, and other major actors.
- Pre-processing risk mapping can provide a reliable understanding of the risk profiles and guide the process of validation.
- The process relies heavily on the memory of community members, particularly the elderly. This aspect of VCA process would pose significant challenges in urban areas where people are highly mobile and may not necessarily possess the knowledge of the past events in the areas they live/work today. Therefore pre-VCA risk mapping should be incorporated into the process.
- Pre-VCA identification and allocation of financial and physical resources would be helpful to facilitate a swift process.
- VCA over-emphasises vulnerabilities instead of exploring and maximising existing capabilities that can be mobilized in urban areas.
- Collaboration with scientific institutions can provide a vast knowledge that can serve as the scientific background for more informed actions and decision. Information on risks and vulnerabilities can be mapped and made available for raising knowledge and awareness and for guiding programs.

3. Climate Guide

The guide developed by the Climate Center aims to provide advice on how to confront the impacts of climate change and share the experiences of National Societies who have started to address this issue in their work.

Adaptability to urban contexts

- The guide provides basic information about climate change and its likely impacts on the environment, human health and its humanitarian consequences.
- It stresses the importance of mainstreaming the community-based disaster preparedness concept into local government planning and promotes close partnership with local authorities.
- ***Some adaptability level to urban work***

Required Adjustments

- Since the impact of climate change is predicted to have a disproportionate effect in the Asia Pacific region (World Bank, 2012), especially in cities, development of a new climate change guide focusing on climate change in urban areas is recommended.
- Overlap between climate change and disaster risk will formulate more effective action and better policy decisions.
- Strategic integration of climate change and DRR would make NS's more relevant in their relationship with other stakeholders, principally local authorities and service providers.
- This will also increase the fund raising potential and donations.

4. Public awareness and public education for disaster risk reduction: a guide

Adaptability to urban contexts

- This very comprehensive guide covers diverse communities (both urban and rural) and key stakeholders in cities.
- It can be used for public awareness and education programmes designed for urban areas.
- It stresses the importance of participatory approaches in urban areas and provides step -by-step approach in participatory disaster management programming.
- *High adaptability level to urban work*

Required Adjustments

- Guidelines for working with local governments need to be enhanced.
- Guidelines for how to incorporate urban specific issues (such as lack of land title) should be included.
- Need for update related to impact of climate change as an additional vulnerability factor of urban communities, principally the poor and highly vulnerable.

5. Assisting Host Families and Communities after Conflict and Natural Disaster

A Step-by-Step Guide: aims to provide support to host and displaced families and individuals not only for a safe and dignified place where to live, but also supports the restoration of family links, former coping mechanisms, and livelihoods recovery.

Adaptability to urban contexts

- The guide covers practical information about how to assist host families in both rural and urban settings.
- It encourages empowering local authorities to take on assessment and registration monitoring roles and acknowledges that this may require very different types of support depending on environment and circumstances.
- It is intended as a multi-sectorial tool and promotes inter-agency and inter-cluster approaches.
- It stresses the importance of participatory approaches in planning and implementation stages.
- *High adaptability level to urban work*

Required Adjustments

- Guidelines for working with local governments and other stakeholders such as service providers need to be enhanced.
- Stakeholder identification and mapping and participatory approach in urban areas need to be enhanced.

6. Community-Based Health and First-Aid (CBHFA)

CBHFA is an integrated community-based approach in which Red Cross Red Crescent

volunteers work with their communities on disease prevention, health promotion, first aid and disaster preparedness and response.

Adaptability to urban contexts

- It encourages National Societies to work with partners including community leaders, donors, other groups working in the community and government sectors such as the health ministry and health workers.
- It can be used both in urban and rural areas.
- ***High adaptability level to urban work***

Required Adjustments

- Although different aspects of vulnerability are identified and addressed, it does not differentiate urban and rural vulnerabilities.
- The partnership opportunities could be widened including private sector and academia.
- Must be linked to government emergency health care plans and special plans towards populations at risk
- Potential for partnership with health care providers is high.

7. The Well-prepared National Society (WPNS) Assessment

A self-assessment matrix for National Societies to rate their role and collaboration with the national government in relation to disaster management, and help guide the NS towards improvements.

Adaptability to urban contexts

- Helps the National Societies to assess their preparedness status, identify strengths and weaknesses, and prioritise actions in line with Strategy 2010.
- Provides a baseline and indicators relating to the effectiveness of global and/or regional disaster preparedness support, which can be compared over time.
- ***Some adaptability level to urban work***

Required Adjustments

- Baseline indicators and assessment tools for the NS programmes and allocation of resources for disaster risk reduction both in urban and rural areas (disaggregated) should be developed and included in the tool.
- The indicators should include assessment of NS capacities and achievements in partnering with key stakeholders.

8. Disaster Response and Contingency Planning Guide

Response and contingency planning is a management tool common to National Societies and the Federation's Secretariat that helps to ensure organizational readiness and that adequate arrangements are made in anticipation of an emergency.

Adaptability to Urban Contexts

- The importance of coordination and linkages between stakeholders, local, national or regional and global levels and between different sectors is emphasized.
- It is designed to assist in the preparation of response and contingency plans for all types of humanitarian emergencies in rural and urban areas.
- Hazard, vulnerability, capacity and risk analyses are included.
- ***High adaptability level to urban work***

Required Adjustments

- More guidance on identifying providers of relevant services and goods in cities before a disaster event needs to be highlighted.

- A template for MOU with service providers can be useful.

9. Gender Sensitive Approaches for Disaster Management: A Practical Guide

These guidelines are intended to help NS incorporate effective gender sensitive and inclusive approaches into their disaster management strategies when assisting communities prepare for, respond to, and recover from disasters.

Adaptability to Urban Contexts

- Provides guidelines in understanding general gender issues that can be applicable both in urban and rural areas.
- Gender issues in livelihoods, land title and property ownerships that are major risk factors in urban areas are discussed.
- *High adaptability level to urban work*

Required Adjustments

- More guidance on encouraging women and children participate in land-use decision-making processes in the cities, especially in regard to creation of safe urban spaces needs to be added.
- More guidance in working with local governments would be useful.

10. Guidelines for Assessment in Emergencies

These guidelines provide advice on how to carry out an assessment in a wide variety of emergency situations that IFRC and ICRC may be involved in.

Adaptability to Urban Contexts

- It provides generic information and step-by-step guidance in conducting assessments without specific reference to the complexities of urban settings.
- *Low adaptability level to urban work.*

Required Adjustments

- Complexities of urban communities, key actors and networks in the cities need to be emphasized and detailed.
- Practical solutions to tackle these complexities should be provided.
- A new guide designed for urban settings focusing on working with local governments and other stakeholders would be more useful.

11. A Practical Guide to Advocacy for DRR

This guide aims to further enhance the skills, knowledge and proficiency of disaster risk reduction practitioners to advocate and communicate on disaster risk reduction

Adaptability to Urban Contexts

- It provides a holistic approach to DRR and DRM.
- Provides a solid basis for understanding basic concepts of hazard, disaster, risk, vulnerabilities, climate change and DRR.
- Fundamentals of advocacy presented in the guide are applicable to both urban and rural settings.
- *High adaptability level to urban work*

Required Adjustments

- Complexities of urban communities, key actors and networks in the cities need to be highlighted.
- Practical solutions to tackle these complexities should be provided.
- Guidance on working with local governments needs to be provided.

Priority should be given to developing materials that enable National Societies to improve technical and negotiating skills in order to assert their role within urban communities and as auxiliaries to governments. The IFRC Secretariat is in the process of developing a set of Guidelines on Humanitarian Diplomacy and a Handbook on the Auxiliary Role for National Societies. These two key reference materials will establish the global framework and key elements in addressing both topics.

For these initiatives to be relevant at local levels, the IFRC must ensure that NS are given the resources to tap into national/ context-relevant expertise that may be available to them: engage local/national PR experts to coach/assist NS in developing strategies that are in harmony with each country’s cultural norms for negotiation and advocacy.

Development of additional instruments such as urban resiliency indicators specific to the urban context would provide guidance in terms of effectiveness of action, benchmarking and measuring progress. Indicators can also be powerful risk communication tools.

3.2.2. Relevant external tools in urban disaster risk reduction for IFRC

Annex 3 of this report provides descriptions of international DRM instruments. These tools were shortlisted from a long list of urban DRM tools developed by EMI based on the sole criteria those whose scale of implementation is at community level¹⁸.

Table 7: Shortlist of international DRM Tools with scale of implementation at community level	
DRM Elements	DRM Tools
DRM Mainstreaming Models	<ul style="list-style-type: none"> ▪ Disaster Resistant Communities Model, Central US Earthquake Consortium (CUSEC), 1997 ▪ Total Disaster Risk Management (TDRM), Asian Disaster Response Unit of the United Nations Office for the Coordination of Humanitarian Affairs in Kobe (UN-OCHA/Kobe), 2001 ▪ ISO 31000 standards and its derivatives developed by governments (AS/NZ, EMI and others)
Risk Analysis Tools	<ul style="list-style-type: none"> ▪ Assessing Resilience and Vulnerability in the Context of Emergencies: Principles, Strategies and Actions-Guidelines, Emergency Management Australia, 2001 ▪ Community Vulnerability Assessment Tool (CVAT), National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, 1999 ▪ Urban Governance and Community Resilience Guide on Risk Assessment in Cities (Book 2), Asian Disaster Preparedness Center, 2010
Disaster Preparedness Tools	<p>Early Warning Tools</p> <ul style="list-style-type: none"> ▪ Automated Local Evaluation in Real Time (ALERT), NOAA US National Weather Service, California-Nevada RFC, 2000 ▪ Automated Local Flood Warning System (LFWS), NOAA US National Weather Service (NWS) ▪ Community Early Warning System (CEWS), WB, LSCFU, Jutiapa,

¹⁸ Source: A Desk Review of International Disaster Risk Management Models and Tools Intended for Local Institutional Application (EMI, 2010)

	<p>Honduras</p> <ul style="list-style-type: none"> ▪ Community-Based Early Warning System (CBEWS), VILLATEK, 1994 ▪ Community-Based Flash Flood Early Warning (CBFFWS), CDERA Caribbean region, 2000 ▪ Community Flood Information System (CFIS), Centre for Environmental and Geographic Information Services (CEGIS), Riverside Technologies inc (RTi), 2006 ▪ Community-Operated Early Warning Systems in Central America, Galileo University, 2000 ▪ Community Warning System (CWS), Community Awareness and Emergency Response (CAER), Contra Costa County, California, USA, 2000 ▪ Early Warning Flood Detection Systems for Developing Countries, Elizabeth Basha and Daniela Rus, 2000 ▪ Flash Flood Alarm System (FFAS), (Not identified) ▪ Flood Early Warning System (FEWS), Distributed Robotics Lab (DRL), 2004 ▪ Integrated Flood Observing and Warning System (IFLOWS), NOAA US National Weather Service, 2000 ▪ Landslip Warning System (LWS), Hong Kong GEO, 2000 ▪ Manual Local Flood Warning System (LFWS), NOAA US National Weather Service, Federal Agencies and other organizations ▪ Operational Solutions for the Management of Inundation Risks in the Information Society (OSIRIS), European Union, Sogreah, 2000 ▪ People-Centered Community-Based Early Warning Systems (CBEWS), IFRC - International Federation of Red Cross and Red Crescent Societies, 2002 ▪ Reinforce Local Structures and Early Alert Systems (RELSAT), European Union, 1999 <p>Contingency Planning Tools</p> <ul style="list-style-type: none"> ▪ The Livelihood Assessment Tool Kit, ILO and FAO, 2009 ▪ Awareness and Preparedness for Emergencies at Local Level (APELL), Industry & Environment Office, UNEP, 1980s ▪ PILLARS Guide - Preparing for Disaster, Isabel Carter, Tearfund, 2002 <p>Recovery and Rehabilitation Tools</p> <ul style="list-style-type: none"> ▪ Rebuilding for a More Sustainable Future: An Operational Framework, Federal Emergency Management Agency, 2000
<p>Disaster Mitigation Tools</p>	<ul style="list-style-type: none"> ▪ How to Make Cities More Resilient – A Handbook for Local Government Leaders, A contribution to the Global Campaign, 2010-2015, Making Cities Resilient My City is Getting Ready, U.N. ISDR (under preparation; to be released in May 2012). ▪ Bringing the Plan to Life: Implementing the Hazard Mitigation Plan (How-to-Guide No. 4), Federal Emergency Management Agency, 2003 ▪ Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies (How-to-Guide No. 3), Federal Emergency Management Agency, 2003 ▪ Getting Started: Building Support for Mitigation Planning (How-to-Guide No. 1), Federal Emergency Management Agency, 2002 ▪ Keeping Natural Hazards from Becoming Disasters: A Basic Workbook for Local Governments, North Carolina Division of Emergency Management; Hazard Mitigation Planning Clinic, 2003 ▪ Planning for a Sustainable Future: The Link between Hazard Mitigation and Livability, Federal Emergency Management Agency, 2000 ▪ Planning Safer Communities: Land use planning for natural hazards, Emergency Management Australia, 2002 ▪ Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters, World Bank GFDRR, 2009

Local Self Assessment Tools and Indicators	<ul style="list-style-type: none"> ▪ Ten Essentials, UN-ISDR Making Cities Resilient Campaign, 2010 ▪ Local Government Self-Assessment Tool, UN-ISDR, 2012 ▪ Disaster Risk Resiliency Indicators, EMI, 2011 ▪ Megacities Indicator System (MIS), EMI 2007
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Self-assessment tools and indicators are particularly efficient to establish an overall strategy, understand priorities and provide a rational platform for discussion and risk communication. The Local Government Self-Assessment Tool, recently launched by the UN-ISDR Secretariat in the context of the Making Cities Resilient Campaign, could serve as a universal tool and integrate individual NS efforts with the broader global effort, which will constitute a priority for the ISDR system for the next several years.

3.3. Summary of key gaps in urban programmes and activities

The main issues of the RCRC in urban areas are detailed below and have been integrated into the study's recommendations.

- Most of the DRR programmes and approaches have been designed for rural communities or adapted from rural experiences.

Most National Societies have been present in cities and towns for decades, and successfully implement traditional activities such as health and safety, disaster response and relief, first aid, and blood services. Their administrative structures often mirror the administrative structure of the country: headquarters in capital city, major branches in provincial or city centres, smaller branches in town centres. Some NS have one or two representatives in the villages where they actively implement programmes.

For the IFRC, community-based disaster risk reduction (CBDRR) remains the key link between humanitarian action and longer-term risk reduction and development initiatives. However, some of the interviewees expressed a growing concern that the CBDRR programmes are mostly occurring in small communities in rural areas and are not designed to accurately address the massive risks and vulnerabilities currently amassed by populations in the cities.

Most of the study's key informants expressed their concern about humanitarian needs in urban areas. Many highlighted the extreme hardships and disaster risks faced by newly arrived migrants, the majority of whom live in slum or illegal housing areas. Some National Societies have done small-scale vulnerability surveys in such areas through locally recruited volunteers (NS of Indonesia, Mongolia, and the Philippines). These surveys evidenced that the residents' risks and vulnerabilities are caused by:

- The absence of basic services such as health, education, water and sanitation, and protection/security
- Deteriorating health conditions due to high-density living, malnutrition, unsanitary conditions and air pollution
- Unsuitable and unsafe housing and shelter
- Unemployment mainly due to a lack of education and adequate skills
- Lack of social care for children, the elderly and the disabled

- Lack of land titles and access to public services by undocumented/unregistered groups, especially in illegal housing areas

Many of these core urban issues require different solutions than what CBDRR can offer. Other strategic and more efficient approaches are needed to scale up urban DRR investments.

Concurrently, there is an emerging awareness of urban risks and a heightened interest among National Societies, their partners and donors to address the needs of the most marginalised and excluded populations. Recent urban disasters, including the devastating results of the 2010 Haiti earthquake, accelerated the urgency of addressing the underlying risk factors in urban areas among development and humanitarian agencies.

Consequently, the RCRC and many other organisations are now implementing Urban Regeneration and Reconstruction Programmes (URRP) in Haiti. The interventions aim to improve the living environment, infrastructure and housing conditions for earthquake affected urban families as part of an integrated neighbourhood recovery programme combining livelihoods, shelter and water-sanitation. While the outcomes of such new RCRC undertakings are still to be demonstrated, they suggest a need for new knowledge and skills among the national societies.

In the Asia Pacific zone, PNS and key external donors are demonstrating a growing involvement in urban DRR as well. The National Societies of Australia, Netherlands, Norway, Spain, Switzerland, UK, and USA and governmental donors such as DIPECHO, AusAid, and DFID have already committed to address urban risk together with the RCRC (see Note 1).

The Netherlands Red Cross, the Red Cross Climate Centre, CARE Netherlands, Cordaid and Wetlands International established Partners for Resilience (PFR) to increase the resilience of citizens against natural disasters, climate change and the deterioration of ecosystems. PFR have started CBDRR programmes in slum areas in Jakarta, Indonesia and Manila, Philippines. That indicates that there are opportunities for the RCRC to make a greater contribution in urban DRR but these opportunities are matched by new challenges.

- There is limited experience in establishing systematic processes that access, gather and integrate information on city-level hazard, vulnerability and risk into programmes and policy formulation.

A growing supply of reliable and accessible data is available at global and national levels on the nature, location and frequency of hazards. Many local governments of large cities are also investing in creating city level hazard profiles. However, National Societies are not fully aware of these resources, often do not have the technical capabilities to interpret outputs or understand implications; and consequently, they are not utilising the information to design DRM and CCA programmes. Furthermore, without such key information on risk factors, they may appear uninformed and, thus not relevant.

In general, National Societies have to rely on country and provincial level hazard and risk assessment data issued by governmental organisations, universities, and research institutions. Such data is often produced for other experts to use and could be out of the reach of NS capabilities. Thus, new skills are needed to ensure adequate assimilation of the risk information. They also collect data on vulnerabilities and risk at community levels through VCA and small-scale surveys. The collected VCA data is not fully scientific or systematic. It is sporadic, sometimes incoherent and in many cases a one-time activity not helpful in identifying long-term trends. Many key informants highlighted unskillful data collection, analysis and interpretation as a key organisational issue.

On the other hand, the basic fact that National Societies are able to collect community level data is a needed service and is fully appreciated by external stakeholders, especially by organisations working at provincial and national levels. These organisations identify, analyse and consider the large pockets of risk and vulnerabilities, but often face difficulties in understanding how exactly these affect the lives of people living in those areas. Despite constructive intentions, the absence of an understanding that is rooted in the daily reality of the marginalised often leads to misconceived policies and programmes in urban disaster risk reduction.

Better access, understanding and interpretation of hazard, vulnerability and risk data would improve the ability of NS to play a more effective role in urban DRR. Unbiased sound information on hazards, vulnerability and risks faced by urban communities can provide the NS's with knowledge that makes them relevant in policy making and shaping investment priorities from government and service providers.

- National Societies require more experience in working with local authorities, professional organisations, private sector, academia, and other local urban actors. They are also not integrated and active in global urban DRR/CCA initiatives.

Urban disaster risk reduction and mitigation requires integrating the efforts of a wide range of policy makers, planners, scientists, engineers, and social scientists to orient urban development strategies and programs. For example, multi-sectorial and interdisciplinary studies are needed to commission, fund and create flooding hazard guides to be included in land use and urban planning, develop watershed management strategies, deploy early warning systems, and plan for evacuations. National Societies do not participate in this mainstream process for development and urban vulnerability reduction programmes due to their lack of experience in working with local authorities.

Collaborating with local governmental authorities and institutions is critically important to the success of National Societies working in urban areas for relevance, sustainability and efficiency.

Interest in land for development purposes is an institutional goal for the private sector. The control over land distribution and rights to own property and to start a business, in addition to the allocation of resources and distribution of services, are dictated by the

policies and practices of national and local authorities. A similar argument can be made for the distribution of services. These decisions have long-term impacts on levels of exposure to risk and on the livelihood of the poor and most vulnerable. RCRC can be in a position to build a strong partnership between communities and their governing institutions based on a common agenda for risk reduction.

A good example of cooperation with local governments is the Integrated Community Based Disaster Risk Reduction and Climate Change Adaptation (ICBR) Project in Jakarta, Indonesia. As a part of the project, Community Based Action Teams (CBATs) were set-up in coordination with the local government. CBATs are used mainly for disaster response work such as water search and rescue, fire fighting, evacuation, and public kitchens. The project fills a need for both the community and the local authorities constituting a 'win-win' situation.

For many National Societies collaboration with the private sector is often limited to receiving donations. Similarly, working with service providers, research institutions or other resource organisations is not a common practice. Service providers are interested because when they provide services (such as electricity) to informal settlers they can collect a fee. NS can act as a favourable representative for these communities for reliable and equitable access to services.

- IFRC guidelines, training materials and manuals have been mostly designed for rural communities and National Societies face difficulties in adapting them to their national/local contexts.

The consultation process revealed that most of the IFRC's tools (policy papers, core programmes, training materials, manuals, and guidelines) provide a wealth of information and serve as a coherent framework/point of reference to ensure that the RCRC moves forward with shared standards, goals and objectives.

However, they can only be used after considerable alterations in order to be of relevance to local urban realities. Most of these tools are designed for rural communities with few exceptions such as the Public Education Guide (IFRC, 2011c). The issue is not whether the existing tools are applicable in the urban context, but whether they are relevant to local contexts. The general feedback is that most of the guidelines and manuals are exhaustive, complex and time consuming and do not adapt well to country/local contexts. The adaptation process often requires external technical assistance and financial resources. Additionally, most of the visual material (graphics/photographs) in the existing tools depicts a rural reality making them irrelevant to the urban identity of volunteers and communities alike.

The study's inquiry into the suitability of existing tools focused around the community-based tools, especially the VCA toolkit. All NS consulted for this study have applied VCA both in rural and urban contexts more than once. The feedback received from these consultations are summarized below and are consistent with the findings of the recent review of VCA in relation to DRR and climate change:

- The analytical skills required to effectively interpret VCA data do not correspond to the technical skills of the majority of National Societies.
- The process generates information at a specific point in time and is otherwise static and not useful for identifying long-term trends.
- It is treated like a separate activity instead of a tool to reach a specific goal.
- It underlines vulnerabilities and not existing capabilities.
- It relies heavily on the memory of community members, such as the elderly. This would pose significant challenges in urban areas where people are highly mobile and may not possess the knowledge of past events.

In response to these concerns, there are various ad-hoc initiatives to simplify and reproduce the tools and create relevance to local contexts. For instance, the Indonesian Red Cross Society, with technical and financial support from the Netherlands Red Cross, has developed a simplified VCA tool that can be used in both urban and rural settings. In addition, the IFRC Secretariat is currently developing a new tool for urban VCA.

RCRC and national societies can take advantage of the knowledge on vulnerability and risk that have already been developed by specialised scientific governmental organizations of the government and by the research and academic community. By working closely with these institutions, they can translate the scientific knowledge into urban risk profiles and urban risk indicators that can instantly illustrate the risk “hotspots” and how these affect marginalized communities and informal settlers. Most scientific organisations would welcome the opportunity to turn their knowledge into practical tools that make a difference to society and would be willing to collaborate with the RCRC.

4. Strategies and practical recommendations

This section outlines how the RCRC can move forward in building an urban resiliency programme. The strategies and practical recommendations provided in this section are proposed based on the potential and the commitment of the RCRC to overcome some key challenges to implementing such actions. The study identifies these as follows—

- A number of issues that define the daily struggle of the urban poor determine their priorities. They include lack of land title and proper documentation to have access to public services such as health, education, water, electricity, sanitation, safety and security, and most importantly securing a daily income.
- All these issues cannot be addressed by any one organisation. Therefore, each NS must identify and align locally with the ones that are most relevant to their institutional capacities and mandate. Knowledge sharing between National Societies is a strong overall competency in problem solving and strategic intervention. The Federation can support the membership to build in-country capacities, adapt the tools, and facilitate alliances with key national institutions that can accompany them in this process.

- Some National Societies are inadequately equipped with knowledge and resources to identify, connect with and maintain relations with urban communities and urban actors. The urban communities were often described as “difficult to identify”, “not homogeneous and stable” and “lacking social support”. In cities, an organisation’s capabilities to understand the nature of this complexity will help determine its success.
- Most NS in the region implement programmes in urban areas but require the skills to document their experiences and translate such experiences into tools and guidelines that capture and replicate good practices.

As the RCRC is already a major humanitarian actor, it can play a significant role in reducing the risks and addressing the vulnerabilities of the marginalised and disenfranchised populations in high-risk urban areas. The resolution “*to do more, to do it better and to reach further*” and *Strategy 2020* point towards a broadened approach to achieve three strategic objectives: save lives, protect livelihoods, and strengthen recovery from disasters and crises; enable healthy and safe living; and promote social inclusion and a culture of non-violence and peace.

These strategic aims already define the scope of responsibilities for the IFRC and anchor RCRC decisions in actions that serve the well-being and safety of the most vulnerable in any geographical setting.

Therefore, the key question is not what the RCRC should do in urban areas. The study concludes that the key question is—

How can RCRC navigate more effectively and efficiently in complex and dynamic urban environments, and maximise its mass impact on behalf of the greatest numbers of people?

To address the four key gap areas identified by the study, specific actions are identified below which can serve as a programmatic roadmap. These are then followed by a set of value propositions on how RCRC programmes in urban disaster risk reduction can add a meaningful and scalable value to building resilient urban communities.

Table 8: Summary of proposed strategies, roles and value propositions

Strategy	RCRC Role in Urban Disaster Risk Reduction	Value Propositions
Multi-stakeholder Partnerships: Adopt a participatory and inclusive approach and reinforce partnerships with local authorities. Define RCRC role in Urban Risk Reduction based on country contexts and	Leverage working partnerships with national and local disaster management authorities for greater access to decision-making processes for vulnerable populations.	RCRC should explicitly position itself as informed and neutral advocates for vulnerable and marginalized populations in the overall planning, implementation and evaluation of urban development programmes.

<p>Multi-stakeholder Partnerships: Adopt a participatory and inclusive approach and reinforce partnerships with local authorities. Define RCRC role in Urban Risk Reduction based on country contexts and NS structure and solidify partnerships/coordination with urban stakeholders.</p>	<p>Leverage working partnerships with national and local disaster management authorities for greater access to decision-making processes for vulnerable populations.</p>	<p>RCRC should explicitly position itself as informed and neutral advocates for vulnerable and marginalized populations in the overall planning, implementation and evaluation of urban development programmes.</p> <p><u>ISDR Essential #1 on Institutional and Administrative Framework</u></p>
<p>Emergency Response and Preparedness: Build on existing core competencies in emergency response and preparedness and expand them to the urban context through a campaign to recruit/mobilise and train volunteers, especially the youth.</p>	<p>Further develop Community-Based Action Teams. Link these with the Disaster Preparedness programme of the local government to ensure sustainability.</p> <p>Focus training activities on strength areas such as emergency management and build partnerships for undertaking drills for highly vulnerable urban communities.</p>	<p>National Societies can optimise resources and increase their impact in urban areas by forging partnerships with technical agencies especially on multi-hazard risk assessment to inform their emergency response and preparedness planning.</p> <p><u>ISDR Essential #3 on Multi-Hazard Risk Assessment</u></p>
<p>Institutional Capacity: Improve existing institutional knowledge and capabilities on risk profiling and risk mapping.</p> <p>Adopt simple self-assessment and indicator tools that can quickly build knowledge and skills in the urban context.</p>	<p>Establish linkage with global initiatives such as the Making Cities Resilient Campaign.</p> <p>Build institutional capacities on risk profiling and mapping to link risk parameters to the conditions of vulnerable populations.</p> <p>Partner with technical agencies and scientific organisations to transform scientific knowledge into simple planning and risk communication tools.</p>	<p>National Societies are well positioned to serve as a bridge between the most vulnerable communities and the institutions that govern and serve them.</p> <p><u>ISDR Essentials # 7 on Training Education and Public Awareness and #9 on Effective Preparedness, Early Warning and Response</u></p>
<p>Tools Adantation and</p>		

Each of the following 4 value propositions corresponds to these strategies and provides the parameters for identifying implementation actions for the RCRC. Most identified actions can be acted upon immediately as they do not require substantial additional funding and complex processes. They merely require a change in the strategic vision and the decision to act and to draw from the organisation’s existing intellectual, professional and financial resources.

Value proposition # 1: RCRC should explicitly position itself as informed and neutral advocates for vulnerable and marginalized populations in the overall planning, implementation and evaluation of urban development programmes.

Actions

- 1) Invest in researching the development processes of cities, the budgetary allocations, and the key programmes for poverty reduction, slum rehabilitation, sanitation improvements, educational access, and others. Typically, the local government authority is the main actor where some of the programmes such as slum rehabilitation are run by local branches of national authorities. These organisations often have stakeholders' committees and/or public hearings.

RCRC can be members of these committees and work with local and district authorities to participate in the planning and review processes. National Societies serve as an efficient bridge between local authorities and the marginalized communities. At the policy level, RCRC can intervene as a partner of the government in the development of the national strategies and programmes.

- 2) To be effective National Societies must acquire the knowledge on how urban development programmes are set up, funded, managed and evaluated. Without such information, NS run the risk of operating in a vacuum. In practical terms, the RCRC needs to—
 - Investigate and document the working processes of these programmes and to hold meetings, workshops and trainings to ensure that such understanding is validated and becomes part of the competencies of the NS.
 - Develop simple guides, brochures and short training courses to explain the inner working of the local and national programmes that are intended to serve the urban poor and the marginalised: poverty alleviation, informal settlement, support to the elderly, disaster risk reduction, etc. The selection should be relative to the most relevant local issues. The documentation would constitute an integral part of the knowledge base on urban risk and urban risk reduction.
 - Assist the NS in understanding the legal and institutional context of cities as it relates to disaster risk reduction. This would enable them to have a sound understanding of the political system in urban areas and the mandates of particular city and district governments in terms of what they can and cannot do. The degree of influence of political systems in daily life of residents is one of the key differences between urban and rural communities.
 - Engagement with district and city authorities is critical for any organisation that strives to make an impact in urban areas. The control over land use, rights to own property and start a business, in addition to the allocation of resources and distribution of services are dictated by the policies and practices of national and local authorities. These decisions have long-term impact on levels of exposure to risk, especially for the vulnerable people living in illegal housing areas.
 - Develop a standard format for a *city risk profile* template that can be completed for each core city. The city risk profile can constitute the primary tool for collecting pertinent information on the urban DRR context of the city.

The city risk profile includes an overview of the hazard information, socio-economic data, and governance structure. NS can collect and eventually use this information to design relevant services, and to target the right communities and identify a successful fundraising and resource mobilisation strategy.

- Develop guides and a support structure to assist NS in hazards, risk and vulnerability identification and mapping. The guide should explain and provide examples on which data is needed, where to find it, how to interpret it and how to use it in the context of urban DRR planning and programming.
- Develop a knowledge management process on lessons learned and sound practices on urban DRR.
- Develop the habit of systematically documenting the experiences with urban communities and transform them into relevant tools.
- Invest in developing negotiation and communication skills among key senior staff and volunteers so that they can serve as persuasive and informed connectors.
- Promote and conduct contingency planning processes together with the local authorities and service providers. Identify providers of relevant services and goods before a disaster event. Whenever possible formalise the relationships through MOUs.

Value proposition # 2: National Societies can optimize resources and increase their impact in urban areas by forging partnerships with technical agencies, especially on multi-hazard risk assessment to inform their emergency response and preparedness planning.

Actions

- 1) Develop tools and pilot projects that assist the NS in understanding and establishing collaborations with local authorities, service providers, private sector, academia and other major actors in cities.
 - In partnership with global media and their national affiliates, promote urban initiatives through highly visible regional and global advocacy campaigns. Facilitate sharing of sound practices by NS in urban DRR at the international level.
 - Support National Societies in upgrading their negotiation, communication and marketing skills to increase their effectiveness in establishing and maintaining partnerships.
- 2) Enhance the concept of community-based programming to embrace participatory and inclusive processes aiming to reach a consensus among major stakeholders.

- Conceive multi-stakeholder urban coalitions for safety and resilience, particularly at city-level, as no single body can deal with the massive disaster risks in urban areas. International and national level multi-agency coalitions already exist but the challenge is to form similar platforms at local level. Actively engage with local government agencies and city authorities, as this alliance is critical in urban settings. Promote urban consensus building approaches when working with local authorities. Assist local government organisations to accept the importance of community participation in decision making and planning processes.
 - Promote National Societies as knowledge connectors between national/provincial/local authorities and communities. Facilitate meaningful linkages between the city government and informal settlers and other marginalized and community based groups (urban poor women's groups, vendors, people with disabilities, youth, religious institutions, etc.) in the broader city-level DRR policy-making and programming. Develop champions within the communities to advance the resilience of the communities, especially in high-risk areas.
- 3) Invest effort in understanding local governing structures, institutional and legal arrangements, decision-making processes, and local urban developmental programmes. Invest in better understanding the roles, responsibilities, and authorities of local government organizations and service providers. Communicate this knowledge with the marginalised and excluded communities to create a demand for these services; and with local governments to assist them to respond to needs and rights of these communities to have access to these services.
 - 4) Engage with people at the nexus of communities: influential opinion leaders belonging to overlapping communities who have the ability to cross over and mobilise different groups. Create long-term alliances with professionals who can be tapped as expert resources in urban DRR such as structural engineers, urban sociologists, urban planners, urban anthropologists, mass communication strategists, economists, and others.
 - 5) Enhance volunteer management skills and attract urban youth and professionals by appealing to their aspirations and making it part of their career plans. Strengthen capabilities to effectively manage spontaneous volunteers who show up in large numbers when a disaster strikes.
 - 6) Redefine capacities as 'capabilities' to connect resources and take full advantage of connections and networks readily available in any city.
 - In urban response and recovery assume that professional skills and resources can be found locally. Avoid competing unfairly with the local private sector. Choose to enhance local economies and work as much as possible with local commercial providers.
 - Invest in preparing stakeholder-mapping analysis to help identify key actors and establish regular contact with them. Stakeholder mapping should focus on opportunities and relevance to IFRC. Partnerships should not only mean

sharing/exchanging what you have but to come together to tap into greater resources together.

- Invest in developing negotiation and communication skills among key senior staff and volunteers so that they can serve as persuasive and informed connectors.
- 7) Promote and conduct -where appropriate and resources are available- contingency planning processes together with the local authorities and service providers. Identify providers of relevant services and goods before a disaster event. Whenever possible formalise the relationships through MOUs.

Value proposition # 3: National Societies are well positioned to serve as a bridge between the most vulnerable communities and the institutions that govern and serve them.

Actions

- 1) Assist NS in developing a strategy to expand their vision of the IFRC auxiliary role to local level and to increase their role as a major stakeholder in cities.
 - Prioritise technical assistance to National Societies that are pro-actively taking action and contributing to national DRM agendas and policy discussions.
 - Assist NS in connecting with global DRM, DRR, CCA initiatives including PDNA processes.
- 2) Establish IFRC as a credible contributor and “mediator” for resolving pertinent urban issues related to informal settlers and poorer communities.
 - Identify key areas of expansion in urban DRR and build a knowledge base for community strengths and vulnerabilities, and create a position for National Societies as credible contributors.
 - Strengthen IFRC commitment to advocacy and lead community processes that contribute to DRM and DRR policies and programme strategies.
 - Negotiate with the government authorities a greater role for the IFRC through informed advocacy and active contribution to poverty and risk reduction efforts.
- 3) Gather, interpret, simplify and disseminate existing city-level vulnerability and risk information for the public consumption and programming purposes.
 - Engage with urban professionals and fully utilise their skills in simplifying complex information into public campaigns/messages on risk and hazard information, climate change, legal rights, land use and development plans.
 - Validate the gathered information with local/household level assessments.

- Ensure that risk and vulnerability analyses result into concrete actions and organisational decisions.
- Inform provincial and national bodies, and connect with national level scientific institutions for risk and hazard information and feed the information back to the community level.

Value proposition # 4: There is a wealth of urban programming experience within the domestic section of NS in developed countries that should be shared with sister National Societies.

Actions

- 1) Ensure a better link between the domestic and international urban programmes/ services of NS (including both PNS and ONS): to capture and transfer lessons learned that are cost effective and organic enough to easily adapt the same set of basic principles to different contexts.
 - Promote and facilitate technical exchange programmes amongst National Societies by matching needs with expertise in targeted sectors. This is also an excellent opportunity for generating a systematic flow of experienced national paid and volunteer staff of NS to actively participate in international programmes.
- 2) Develop opportunities for knowledge sharing, learning and action planning process.
 - National Societies can facilitate the exchange of technical expertise by its various city chapters not just in the mobilisation of volunteers for response during disasters but also in preparedness and planning activities. There are experiences by cities in urban DRR activities such as setting up micro-credit facilities for access by members in the event of disasters, participation in actual exercises in urban water rescue, etc. that other city chapters can learn from.

5. Proposed operational strategies and action plan

The Red Cross and Red Crescent's global network potentially matches the massive scope and scale of urban disaster risk reduction requirements. The RCRC can be a powerful change agent and significantly promote greater levels of resilience in urban communities by developing operational strategies that align its current capabilities with its untapped potential. Within the framework provided by the study's recommendations and value propositions, the following action steps can be initiated immediately with existing resources, capacities and capabilities.

Immediate actions

- 1) Prioritise at-risk urban areas in the region and identify the immediate DRR needs. Select pilot sites and initiate an exercise to identify/classify which city communities—
 - ✓ Control the bulk of critical social capital network?
 - ✓ Connect/overlap extensively with other city communities?
 - ✓ Influence social, political and economic decisions?
 - ✓ Inform society at large?
 - ✓ Shoulder the most risk?
 - ✓ Serve key public roles?

It is crucial to carefully observe and integrate the complex connections amongst these city communities and how to motivate them to work together. The advocacy methods and strategies should be specifically linked to the distinct characteristics of each of these groupings. Understanding these relationship dynamics can make a fundamental impact on designing urban strategies that ensure quality and equity of public and social services accessible by all urban residents, marginalised or not.

- 2) Wherever possible, renegotiate/expand the auxiliary role from a reactive position (implementers/ facilitators of policy) to a pre-emptive position (influencers of policy) as both a key service provider and advocate for the most vulnerable.
- 3) Proactively orchestrate events that engage public officials with the RCRC from local to national levels.
- 4) Expand national/regional legal, advocacy and communications efforts and become an explicit voice that calls for governance and corporate accountability in responding to the basic needs of the poor and marginalised populations.
- 5) Issue basic talking points and guidelines on how to advocate and negotiate in the context of the cultural and political realities of each country. Engage local and national PR experts to coach/assist NS in developing strategies that are in harmony with each country's cultural norms for negotiation and advocacy.
- 6) Start adaptation of existing tools to urban context.
- 7) Develop criteria to match and group National Societies according to capacities and shared needs and interests to ensure transfer of relevant knowledge about urban work amongst National Societies on a targeted basis. In disaster management, it makes sense to define a working group based on geo-proximity and shared disaster types such as the current sub-regional administrative divisions of IFRC and many PNS working bilaterally. However, to advance the goals of urban disaster risk reduction and community resilience, the groupings should focus on:
 - The administrative set up of the country and progress toward decentralization of government responsibilities
 - Similarities in the auxiliary role
 - Urban population characteristics

- Shared urban risk characteristics
- Existing urban programmes and services independent of IFRC/PNS funding

Medium term (2012-2015)

- 1) Use media contacts/partnership to initiate mass public education and awareness campaigns on a sustained and strategic basis. This will also provide additional opportunities for volunteer recruitment.
- 2) Develop new urban specific tools incorporating participatory approaches.
- 3) Develop/update current guidelines/SOPs on coordination and cooperation during disasters to better target their application to the realities in urban settings (refer to experiences gained through the Nepal Risk Reduction Consortium).
- 4) Expand the roster of RC partners to include academic, scientific, information technology and social research communities which can assist in integrating data, information, concepts and techniques into RC's risk reduction strategies and service programming. Develop local resilience coalitions to organize partnering among these diverse stakeholders.

Long term (2012-2020)

- 1) Continuously focus efforts to establish IFRC as a leading organisation in participatory approaches to urban programming and a key partner of local governments in urban resilience building.

Notes

Note 1 – Additional urban projects being implemented by NS

The Kathmandu Valley, Nepal: Nepal Red Cross Society, with support from the British Red Cross/DFID, focuses on earthquake preparedness and supports the development of local DP and mitigation plans, training of first responders, and awareness campaign on individual/ household disaster preparedness and protection. The project plans to connect local and international preparedness and response. The project has appropriated some funding for retrofitting schools.

Haitian Integrated Neighbourhood Reconstruction and Recovery Program (LAMIKA): supported by American Red Cross, the main project activities include:

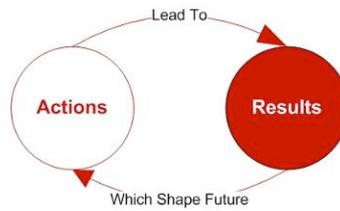
- Infrastructure rebuilding: Housing, community buildings repair and reconstruction, alley way repair. Facilitate access to essential public services, such as water, sanitation and waste management.
- Economic rebuilding: Contribute to strengthening the local economy through the restoration of livelihoods.
- Social rebuilding: Build social cohesion through the involvement of local stakeholders and communities.
- Institutional rebuilding: Contribute to capacity building of Haitian Red Cross, local government actors and partner institutions on Disaster Risk Reduction and health programmes.

The Programme for Prevention and Support for Street Children and Youth (PANICA): supported by the Norwegian Red Cross and implemented in various Colombian cities.

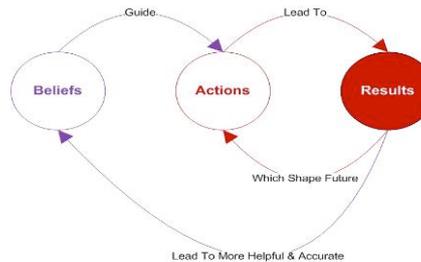
- Reducing the vulnerability of persons who have been internally displaced to project areas, who live or spend a great deal of their time on the street, or who suffer from urban school and juvenile violence.
- Improve the self-esteem and personal identity of children and mothers.
- Promoting socialization processes; improving health and hygiene; encouraging better use of leisure time; reinserting youth in the educational process; increasing the overall levels of school participation.

Note 2 - UNICEF The Child-Friendly School (CFS), aimed at helping schools achieve safe, healthy and protective environments, has become the main model through which UNICEF and its partners promote quality education in normal as well as emergency situations. The CFS model compensates for any shortcomings in the home and community that might make it difficult for children to enrol in school, attend regularly and succeed in their studies. CFS model also builds partnerships between schools and the community. Governments can encourage the development of child-friendly schools by promoting free enrolment, passing regulations that prohibit corporeal punishment, encouraging the use of local languages in schools, integrating disabled children into mainstream schools, allowing pregnant students to complete their education, and mandating that children living with HIV and/or AIDS have a right to attend school and continue learning. (<http://www.unicef.org/lifeskills>)

Note 3 - Single and double-loop learning



Single-loop learning



Double-loop learning

Double-loop learning requires not only adjusting one's actions, but also surfacing, challenging and adjusting the governing variables that are usually taken for granted—our beliefs or “mental maps of reality”.

Note 4 - Innovative Community Based First Aid Service

A charity, “United Hatzalah (UH),” coordinates a group of 1,700 First Aid Volunteers scattered around Israel. Each volunteer has a GPS-enabled smart phone revealing exactly where she or he is. Anyone who sees an emergency can call a central number, which instantly alerts the nearest first aider who may be only a block away. He stops whatever he is doing and races to the scene. When the ambulances come, the volunteer goes back to his job. Soon members of the public will be able to download an app that puts them directly in touch with the nearest first aider, bypassing the call centre. Last year UH answered 200,000 calls. (Source: The Economist, 28 January 2012)

Note 5 - Social Protection

The concept of Social Protection (SP) has expanded in recent years from a relatively narrow focus on safety nets in the 1980s and 1990s to present-day definitions that involve mechanisms designed to combat longer-term structural poverty as well as interventions to reduce the impact of short-term shocks. All three approaches (SP, CCA and DRR) are therefore linked by a fundamental concern with reducing vulnerability and building resilience – be it to poverty, disasters or changes in average climate conditions – across a range of timescales, from the short to the longer term. Social protection can be understood in terms of four key categories of objectives: (source: The World Bank, 2011)

- Protective measures, which provide relief from deprivation;
- Preventive measures, designed to prevent deprivation;

- Promotional measures, aimed at enhancing income and capabilities; and
- Transformative measures, which seek to address concerns of social justice and exclusion.

Note 6 - Structural and Non-Structural Mitigation

Structural mitigation measures aim to keep hazards from people, buildings, and infrastructure such as electrical systems or transportation, or sites that are exposed to hazards. Levees, dams, drainage systems, sound building codes and construction practices are examples of structural mitigation.

Non-structural mitigation measures attempt to reduce the exposure to disaster losses. Low density zoning ordinances, creating and maintaining open public spaces, designating proper evacuation roads locating critical public services (hospitals, schools) in non-hazard zones are examples of non-structural mitigation measures.

Non-structural mitigation training in Haiti: British Red Cross has been conducting a training programme for masons, carpenters and other construction workers on seismic resistant house design. Besides training, toolkits will be given to the construction workers.

Annexes

Annex 1. The Ten Essentials for Making Cities Resilient

<http://www.unisdr.org/campaign/resilientcities/>

1. Put in place organisation and coordination to understand and reduce disaster risk, based on participation of citizen groups and civil society. Build local alliances. Ensure that all departments understand their role in disaster risk reduction and preparedness.
2. Assign a budget for disaster risk reduction and provide incentives for homeowners, low-income families, communities, businesses and the public sector to invest in reducing the risks they face.
3. Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and fully discussed with them.
4. Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.
5. Assess the safety of all schools and health facilities and upgrade these as necessary.
6. Apply and enforce realistic, risk-compliant building regulations and land use planning principles. Identify safe land for low-income citizens and upgrade informal settlements, wherever feasible.
7. Ensure that education programmes and training on disaster risk reduction are in place in schools and local communities.
8. Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.
9. Install early warning systems and emergency management capacities in your city and hold regular public preparedness drills.
10. After any disaster, ensure that the needs of the affected population are placed at the centre of reconstruction, with support for them and their community organisations to design and help implement responses, including rebuilding homes and livelihoods.

Refer also to the Local Government Self Assessment Tool by the UN-ISDR

<http://www.unisdr.org/campaign/resilientcities/toolkit/howto>

Annex 2. Summary of Responses from Interviews/Discussions

1. Institutional and Administrative Framework	
Opportunities	Challenges
<ul style="list-style-type: none"> - Some NS getting are becoming more open to partnerships. In urban areas, you have to work with a wide range of partners. Scaling up requires partnership but there is a need to protect intellectual property, such as program designs and tools. There have been instances when other NGOs make use of our tools. Since we all compete for funds from the same donors, this is becoming a problem. (Beijing) - RCRC is already becoming a connector in urban areas. (Beijing) - In urban areas, there is a need to use professionals to address existing needs. Changes in mindset can be facilitated by generate evidence through scientific information and professionally done survey results. There is a need to get universities and research institutions and the private sector onboard more. It is difficult to deal with such big-scale issues alone. (Ulaanbaatar) - Better communication with government has been initiated to scale up first aid activities. (Ulaanbaatar) - Working in urban areas is not new to RCRC. They do work in slum areas such as violence prevention (Brazilian RC), and street mediation (by Norwegian RC), among others such as first aid. (Hanoi) - There is a strong interest in ARC to work in urban areas. They should transfer their knowledge and experience in domestic services in urban areas into international services. (Hanoi) - Some NS have just started to think more on urban issues and they are open to ideas for doing more work in urban settings. They need technical assistance from IFRC in formulating policy and programs. 	<ul style="list-style-type: none"> - There is limited exchange of knowledge between the local staff and their international PNS counterparts. (Ulaanbaatar) - RCRC has to find new ways of defining communities and adapt to changing social dynamics. (Ulaanbaatar) - IFRC has positioned itself as a development agency. We need to work more in development, which requires long-term thinking and also affecting/leading policy and strategies at the national level. NS should not just passively wait for orders from governments anymore. The information flow should be upstream as well as downstream. (Beijing) - Most international programs require extensive reporting requirements, which are a burden for NS. ARC prefers to agree on the programs with NS and transfer the money to them to implement. They only supervise the implementation with a minimum number of delegates. (Beijing) - Scaling up in urban areas requires integrated action. Creating ownership may take longer but it requires going slowly and creating models that will work in that country. You need to create models that can be owned by the governments and replicated. Usually governments have the money but are not necessarily directing it to where the need is greatest. In some countries, governments have a lot of money but require extensive advocacy, guidance and relevant models to ensure resources are directed to the most vulnerable people. In most cases, they need professional assistance more than money. (Ulaanbaatar) - Existing programs can be extended to urban areas but you need new and

<p>(Hanoi)</p> <ul style="list-style-type: none"> - Because of the highly centralized system and close relation between government and RCRC it may be easier to implement urban programs as long as you get the commitment of the local governments. (Hanoi) - In order to expand RCRC programs in urban areas, they should work closely with local governments in identifying the main issues, type and locations of interventions. RCRC can advocate for provision of this kind of services by the local governments. (Hanoi) - The government has a disaster management motto called "4 on The Spot" (localized leadership, HR resource, management, and logistics). RCRC should adopt that approach in urban areas and integrate into the government system. (Hanoi) - Start with what the National Societies have in terms of a working partnership with the national disaster management authorities. Focus could be in 1) search and rescue and contingency planning (emergency management and disaster preparedness) through the CBAT; and, 2) health promotion (dengue program, avian influenza, and others). (Jakarta) 	<p>different approaches. The tools being used now are irrelevant and should be adapted to urban areas. (Hanoi)</p> <ul style="list-style-type: none"> - Scaling up process is happening but because of sovereignty of NSs, it is moving very slowly. (Hanoi) - Planning and partnering capacities of the NS are very weak. They are open to partnership but not very good at it. They need support in this area. (Hanoi) - Urban DRR is a very new area for RC. It requires big investments from the government and it is not the job of a single organization. It requires collaboration. (Hanoi) - Working with other organizations sometimes creates difficulties in program monitoring. (Hanoi) - IFRC partnerships with other institutions and/or agencies on DRR are mainly through the international and national DRR platforms. (Jakarta) - It is difficult to identify organizations in Jakarta and how they link with one another. Agencies also have overlapping roles. (Jakarta) - Urban society is heterogeneous and complex, owing to the diverse backgrounds of people in terms of religion, ethnicity, and other cultural characteristics. In the rural setting, it is more homogenous. Dealing with this complexity requires more resources, time, efforts, and skills. (Jakarta) - If IFRC will be scaling up the urban risk reduction initiative, there should be a clear strategy and a plan in place. At national level, there has to be a strategy in terms of how to strengthen the national society in implementing urban risk reduction from national to community level. (Jakarta)
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2. Financing and Resources	
Opportunities	Challenges
<ul style="list-style-type: none"> - Urban areas have big advantages for health and first aid activities due to high interest and awareness, and the proximity of people and other facilities. There is a great potential for commercial first aid trainings, which could be a good source of sustainable income for NS. (Ulaanbaatar) 	<ul style="list-style-type: none"> - NS are too dependent on external funding and technical assistance. Externally supported projects are typically discontinued once outside resources are no longer available. (Ulaanbaatar) - RCRC doesn't know much about the resources in urban areas. RCRC hasn't used them effectively yet. But they can do more awareness raising and community training. (Hanoi) - Lack of funding and necessary skills and difficulties in community mobilization are the biggest challenges in urban areas. RCRC can easily raise money for relief but not for capacity building activities. (Hanoi) - In terms of funding for DRR projects, it is essentially the PNS and the IFRC Zone that deals directly with donors. (Jakarta)
3. Multi-Hazard Risk Assessment	
Opportunities	Challenges
<ul style="list-style-type: none"> - NS volunteers go to door to door to identify the most vulnerable (single parents, disabled, seriously ill), and link them to government services. (Ulaanbaatar) - An urban VCA has already been conducted, using existing tools that were simplified and adapted to the local context. The process was not difficult as urban people are better educated and motivated. (Hanoi) - There is a gap in the flow of information from top-down and bottom-up about the risks, hazards and vulnerabilities of households. RCRC can play an important role in filling up this gap. (Hanoi) 	<ul style="list-style-type: none"> - Information is collected on vulnerabilities at the community level, but these are not turned into action plans. - RCRC is not working with unregistered migrants from rural areas. It is difficult to gather data about them. They are the most vulnerable and RCRC should find a way to work with them. (Hanoi) - A key gap is how to interpret the various findings from the different tools in terms of planning and prioritizing. There is too much focus on how to use the tools without an equal emphasis on the purpose of the tools. (Jakarta) - VCA provides useful baseline information and information gathered were relevant. The challenge faced is how to utilize the

<ul style="list-style-type: none"> - RCRC can effectively do community-level risk and vulnerability assessment and take that information to higher (provincial/national) levels and vice versa. (Hanoi) 	<p>information gathered for planning. (Jakarta)</p> <ul style="list-style-type: none"> - Another challenge in using tools is how to make the community tell the truth and provide meaningful answers; how to trigger meaningful discussions during focus group meetings.
4. Infrastructure Protection, Upgrading and Resiliency	
Opportunities	Challenges
<ul style="list-style-type: none"> - There is room for more water and sanitation projects in some NS as safe water and hygiene are significant issues in some cities. (Ulaanbaatar) 	<ul style="list-style-type: none"> - The biggest urban issues are air pollution, the spread of communicable diseases such as TB, poverty and unemployment, food safety and security, and water and sanitation. Seventy percent of the country's population have no access to clean water. (Ulaanbaatar)
5. Protection of Educational and Health Facilities	
Opportunities	Challenges
6. Building Regulations and Land Use Planning	
Opportunities	Challenges
<ul style="list-style-type: none"> - In Mongolia, rural migrants in urban areas are the most vulnerable population. NS has programs on social care, as well as registration and documentation projects to help them know about and use their legal rights. (Ulaanbaatar) - The situation of migrant populations in slums captures all the issues that are pertinent to urban areas. (Beijing) - RCRC is in a good position to counter discrimination against migrant populations. (Beijing) - The peri-urban areas where the population is neither rural or urban but go back and forth between their villages and the city are most vulnerable. They are trapped between two worlds. (Beijing) 	<ul style="list-style-type: none"> - Apart from the migrants, other urban issues are quite hidden and not easy to observe. (Beijing) - Minimum services are provided to the migrants (water, electricity, health and security) but housing is a big problem. There is no affordable housing for poor people or young students or new graduates living away from their families. (Hanoi) - Some NS do not go into housing issues to avoid problems with the government. They focus more on disaster preparedness activities. (Jakarta)

<ul style="list-style-type: none"> - To be able work in slum areas we should find the right entry points and start small and offer something with concrete benefits to the people. After gaining the trust of the communities, we can expand. Programs such as TB care and prevention can be good entry points. (Beijing) - RCRC should also advocate for proper and safe urban spaces for poor people, women and disabled such as clean and accessible public restrooms, well-lit, clean parks with playgrounds and public buses accessible by disabled. (Hanoi) 	
7. Training, Education and Public Awareness	
Opportunities	Challenges
<ul style="list-style-type: none"> - Marketing strategies for reaching the youth should focus on creating a demand for learning and developing ways to facilitate learning. (Ulaanbaatar) - There is a need to create a culture of prevention and safety, and to change mindsets. (Ulaanbaatar) - In terms of changing mindsets, it is better to focus on youth rather than adults. (Ulaanbaatar) - RCRC is very well-respected and can easily carry out big-scale awareness campaigns. (Ulaanbaatar) - RCRC can and should do more advocacy for policy change and household preparedness. (Ulaanbaatar) - RCRC can work in raising disaster awareness and vocational training. (Ulaanbaatar) - In Mongolia, general practitioners are present even at the lowest administrative levels and they can be mobilized to disseminate information. (Ulaanbaatar) 	<ul style="list-style-type: none"> - Awareness on urban risk and social issues is more at a personal level than at an organizational level. (Ulaanbaatar) - In order to generate involvement from people in urban areas, they need to be provided with the feeling of free choice, a sense of controlling the process, and ownership of outcomes. (Ulaanbaatar) - Interest in social work is on the decline in cities, where more people are focused on economic advancement. There is a need to be more innovative to capture the interest of people in cities. (Beijing) - Scaling up NS programs in urban areas requires building upon what they are good at. The NS should decide what they want to do. We should not impose any programs on them. We can introduce concepts but ensuring ownership is critical. Otherwise when the funding ends, the programs end. (Beijing) - Some NS would like to expand programs such as health into urban areas, but they don't know how to go about it. (Beijing) - The big issues in urban areas are migration from rural areas is increasing,

<ul style="list-style-type: none"> - The concept of disaster has not been well-established in people's minds because there has been no experience of major disasters. Dzuds, livelihood and health challenges are considered a part of life and not something that can be prevented. (Ulaanbaatar) - Through a program supported by the EU and the government, the NS identifies groups of families who are then trained and given funding to start a small business. (Ulaanbaatar) - Social media should be used more effectively to capture youth in cities. (Beijing) - RCRC should reach out to self-help groups (for HIV/AIDS and others) that exist in cities and work with them to expand their programs. (Beijing) - We can do more advocacy but we also need to show more tangible results. (Beijing) - RCRC tools should be adaptable and flexible. Each NS should be able to develop their own tools according to their needs. (Beijing) - RCRC is not so good at community mobilization. Other organizations have done a better job at introducing micro-credit, rights based approach, environmentalism, etc. (Hanoi) - RCRC is good at listening to the demands of the communities and taking to the policy levels (international conference level). (Hanoi) - RCRC can also advocate to people on how to take action to handle their issues and help people connect with other service providers, such as with hospital referrals. (Hanoi) - Until recently NS programs were more 	<p>unemployment, pollution and unhealthy living conditions for the migrants and, climate change effects (longer lasting floods, 1m. sea level raising will effect 70% of Vietnam, especially big cities like Ho Chi Minh). (Hanoi)</p> <ul style="list-style-type: none"> - RCRC does a lot of awareness raising but not for change. What is lacking is a structural approach to bring big-scale change in peoples' lives. (Hanoi) - The problem with IFRC tools is not rural/urban difference it is their adaptability to country context. They are not suitable for each country. (Hanoi) - Existing tools of IFRC are too complex and need to be adapted to the local context. Netherlands RC simplified VCA and they use it in rural and urban areas. We should help NS build capacity to develop their own tools. (Hanoi)
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<p>charity oriented. Now they started to implement CBH and CBDRR projects. Most of the programs and tools are rural. (Hanoi)</p> <ul style="list-style-type: none"> - RCRC is quite aware of urban issues, especially problems of migrant population. VNRC can increase their capacity easily by tapping into women's and youth unions. What is needed is leadership commitment. (Hanoi) - Spanish RC is implementing a project in semi-urban areas around Hanoi to train disabled people to learn skills for employment. (Hanoi) - There is a need for more livelihood support and vocational training in urban areas. (Hanoi) - A gap area in terms of awareness is the need to disseminate information to volunteers and field personnel. (Jakarta) - Training on advocacy, negotiations, and planning for communities are required. Negotiation is particularly needed considering the need to balance and manage the interests and expectations of the diverse stakeholders in the urban setting. (Jakarta) - Also because of so many stakeholders, there is a need for capacity in mapping stakeholders. Capacity to do policy mapping is also necessary. (Jakarta) - Training on report writing is required for communities since this can free up staff time of district and provincial level staff. (Jakarta) - Training is needed for warehousing and maintenance since CBAT, through the ICBR project, has been supported with several response equipment such as rubber boats, generator set, public kitchen, and complete set for emergency response. (Jakarta) - Regular refresher training is required for 	
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<p>disaster response. (Jakarta)</p> <ul style="list-style-type: none"> - To sustain project initiative, training may be needed in proposal writing, networking with other stakeholders, and fund raising. (Jakarta) - There should be a mechanism for sharing experiences between communities so that each can learn from one another. (Jakarta) 	
8. Environmental Protection and Strengthening of Ecosystems	
Opportunities	Challenges
<ul style="list-style-type: none"> - Community-based activities such as the cleaning of causeways to prevent flooding should be included in the school curriculum. (Ulaanbaatar) 	
9. Effective Preparedness, Early Warning and Response	
Opportunities	Challenges
<ul style="list-style-type: none"> - There is an increased focus on earthquake preparedness due to the availability of more recent risk assessment data. (Ulaanbaatar) - ARC supports basic disaster (earthquake) preparedness education in schools and communities in urban centers in central Asia. Each program is designed by the NS and based on ARC materials. They include information on disaster awareness, household, school, medical facilities and corporate preparedness. (Beijing) - Some NS are delivering corporate disaster preparedness training to the private sector for a fee. (Beijing) - Light search and rescue and first aid training for neighborhood volunteer teams is critical in urban areas. (Beijing) - There is a need for early warning systems in urban areas. This is something that RCRC could get involved in. (Hanoi) 	<ul style="list-style-type: none"> - In urban areas, infectious disease is a significant problem. Aside from disaster preparedness, RCRC should be ready to deal with disease outbreaks. (Ulaanbaatar)

<ul style="list-style-type: none"> - Activities being conducted include evacuation drills in schools, preparedness for home accidents and fires, and training staff of local service providers (SAR teams, fire fighters). (Hanoi) - Risk reduction can be addressed mainly through health programs, such as for addressing diphtheria, epidemics, diarrhea, dengue and others. One mitigation strategy is to strengthen the local health posts. (Jakarta) - Flood surveillance system initially set up by CBAT has been adopted by the government and expanded. (Jakarta) 	
10. Recovery and Rebuilding of Communities	
Opportunities	Challenges
<ul style="list-style-type: none"> - Patient care is an area RCRC should do more in, including programs for HIV/AIDs and TB patients, whose numbers are on the rise. (Ulaanbaatar). - Social protection is an area RC should do more in. Microcredit for the relief of debt or micro-health insurance (cushion for shocks) will have a big impact in slum areas. (Hanoi) 	

Annex 3. Profile of Urban Community-Level DRM Tools by External Agencies

This document presents a quick overview of selected DRM instruments collected as of February 2012. The tools are categorized according to their main purpose, namely, DRM mainstreaming, risk analysis, disaster preparedness, and disaster mitigation. Disaster preparedness tools are further classified into early warning, contingency planning, and recovery and rehabilitation. Aside from a brief summary, the instruments' proponents, year of development, financial and human resource requirements, and main references are also listed.

I. DRM Mainstreaming Models

1.1 Disaster Resistant Communities Model

Central US Earthquake Consortium (CUSEC), 1997

Anchored on the concept of “Disaster Resistant Community,” the general objective of the approach is to reduce vulnerabilities of the community as well as the business and industry to natural hazards to minimize losses from disasters and accelerate community recovery. It is designed to bring together key community stakeholders to develop a mitigation strategy for the community which is organized around the goal areas of Hazard and Assessment, Education and Public Outreach, Community Land Use, Existing Development, New Development and Business Vulnerability Problem.

Intended Users: Local governments and national/local agencies involved in DRM

Key Stakeholders: Local government

Scale of Implementation: Community level

Financial requirement: Requires budget for IEC, community meetings and consultations and for acquiring HAZUS as the tool for hazard and risk assessment.

Human resource requirement: Hazard and Risk Assessment Experts, other technical people, local managers, working groups

Reference: <http://goo.gl/mXNaK>

1.2 Total Disaster Risk Management (TDRM)

Asian Disaster Response Unit of the United Nations Office for the Coordination of Humanitarian Affairs in Kobe (UN-OCHA/Kobe), 2001

The TDRM is a holistic approach which aims to help government agencies address and prepare for potential impacts of disasters and at the same time plan for economic stability and reconstruction. The TDRM model focuses on two main principles particularly brought about by the paradigm shift in disaster management. These principles are: (1) the involvement of all stakeholders and, (2) implementation at all phases of disaster risk management such as prevention/mitigation, preparedness, response and rehabilitation/reconstruction phases. It also uses a risk management methodology which comprises both management and decision-making processes to guide the systematic and consistent assessment and evaluation of risks to government's pre and post-disaster goals and objectives.

Intended Users: National governments; local governments; private institutions

Key Stakeholders: National and local government, experts; hazard-prone communities

Scale of Implementation: national, sub-national, municipal, village level

Financial requirement: Budget for research, consultation/meetings, and for acquiring risk management methodology

Human resource requirement: Risk Managers/DRM Specialists, Technical Working Group, local managers

Reference: <http://goo.gl/8RR2N>

II. Risk Analysis Tools

2.1 Assessing Resilience and Vulnerability in the Context of Emergencies: Principles, Strategies and Actions-Guidelines

Emergency Management Australia, 2001

This is a set of guidelines that aims to be used in evaluating community and constituents' needs, assisting in planning and in reviewing. It can also be used to assist planning to audit and evaluate subordinate plans and arrangements and to develop tools for policy and program development.

Intended Users: Local people, community groups, local municipalities and agencies, planners at regional, state, national levels

Key Stakeholders: Local people, community groups, local municipalities and agencies, planners at regional, state, national levels

Scale of Implementation: Individual, Community, Local Government

Financial requirement: Funding for data collection

Human resource requirement: Technical experts and support staff

Reference:

http://www.proventionconsortium.org/themes/default/pdfs/CRA/EMA_2001_meth.pdf

2.2 Community Vulnerability Assessment Tool (CVAT)

National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, 1999

This manual is focused on Hazard and Vulnerability Assessments (HVA). There is a natural hazards focus. Tools and methodologies consist of GIS, spatial mapping and analysis, as well as a variety of environmental/natural hazard models.

Intended Users: Local government staff and community members

Key Stakeholders: Local government officials, community members

Scale of Implementation: Local and Community level

Financial requirement: There is a need for GIS software for the use of the tool

Human resource requirement: Experts will be needed to collect and analyze technical data, also GIS specialists will be needed

Reference: <http://www.csc.noaa.gov/products/nchaz/startup.htm>

2.3 Urban Governance and Community Resilience Guide on Risk Assessment in Cities (Book 2)

Asian Disaster Preparedness Center, 2010

This is part of series of guidebooks designed to raise awareness of the challenges local governments face in reducing disaster risk. It specifically provides concise and practical guidelines in selecting appropriate assessment methodologies to evaluate risks and support

decision-making processes. It proposes five essential steps in the risk assessment process, namely, hazard identification, hazard assessment, vulnerability and capacity assessment, risk estimation, and risk evaluation. Case studies from Bangladesh, Indonesia and Lao PDR were presented to demonstrate different ways of doing city-level risk assessments.

Intended Users: Local government

Key Stakeholders: Local government officials, communities, civil society and other local stakeholders

Scale of Implementation: City and community level

Financial requirement: Does not prescribe a specific methodology but simply presents options depending on the capacity and need of cities.

Human resource requirement: Multidisciplinary team, including representatives from local governments and NGOs

Reference: <http://tinyurl.com/cxbgquh>

III. Disaster Preparedness Tools

A. Early Warning Tools

3.1 Automated Local Evaluation in Real Time (ALERT)

NOAA US National Weather Service, California-Nevada RFC, 2000

The ALERT is a stand-alone flood warning system that consists of automated event-reporting meteorological and hydrologic sensors, communications equipment, and computer software and hardware. ALERT sensors transmit coded signals, usually via VHF and UHF radio, to a base station, often through one or more relay or radio repeater sites. Processed information on flooding, inundation of roads, evacuation routes, supply depots, hospitals and others can be displayed on a computer screen according to various preset criteria, with both visual and audible alarms activated when these criteria are reached.

Intended Users: National and local government

Key Stakeholders: The local government will be crucial in funding and maintaining this system. Alert is largely dependent on the base stations and the personnel who maintain it. Citizens are only recipient of the information/ early warning.

Scale of Implementation: National, local level, community

Financial Requirements: ALERT Software, computers, Internet connection, electricity, communication devices, backup batteries

Human Resource Requirements: Alert Software Operator, Base station staff (data processor, IT technician, communication technicians)

Reference: <http://goo.gl/asxdl>

3.2 Automated Local Flood Warning System (LFWS)

NOAA US National Weather Service (NWS)

Automated LFWS is composed of sensors that report environmental conditions to a computer using an observation platform communication protocol and a second communication protocol by which information is sent between the base station and other computer system.

Intended Users: Local government

Key Stakeholders: Local Government, Community

Scale of Implementation: Local and community level

Financial Requirements: Automatic river and rainfall gauges, communications devices, automated data collection and processing equipment, microprocessor, and analysis and forecasting software

Human Resource Requirements: IT Personnel, software specialist and other personnel necessary for communication

Reference: <http://www.weather.gov/oh/docs/alfws-handbook/chap5.pdf>

3.3 Community Early Warning System (CEWS)

WB, LSCFU, Jutiapa, Honduras

It is a mechanism for monitoring and registering rain data and river behavior that allows to early warn the communities in the lower zones of the watershed from a possible flood. CEWS is a system that has three modules 1. Monitoring Sites, 2. Forecasting Site and 3. Response Sites

Intended Users: Local government, community

Key Stakeholders: Local Government, Community

Scale of Implementation: Local and community level

Financial Requirements: Flood monitoring equipment, communication devices

Human Resource Requirements: Volunteer observers, community coordinators (for drills and planning)

Reference: <http://siteresources.worldbank.org/INTDISMGMT/Resources/CBEWS.pdf>

3.4 Community-Based Early Warning System (CBEWS)

VILLATEK, 1994

The Community Based Early Warning System monitors rainfall, river levels and existing hydro-meteorological conditions on a regular basis. Rainfall is measured using TruCheck plastic rain gauges. River levels are measured by using scales painted on bridges or using electronic devices designed and built by Villatek, S.A. Weather conditions are assessed using meteorological stations developed by Oregon Scientific. Forecasting is done through simple protocols that take into consideration accumulated rainfall in six-hour periods and river levels.

Intended Users: Community Leaders

Key Stakeholders: ordinary citizens/ community members, community leaders, local government officials

Scale of Implementation: Local and community level

Financial Requirements: TruCheck Plastic Rain Gauges, Paint/ Electronic Devices for river monitoring, computers with internet connection

Human Resource Requirements: volunteers, information coordinator, rainfall and river observers (volunteers)

Reference: http://www.eird.org/eng/revista/No9_2004/art11.htm

3.5 Community-Based Flash Flood Early Warning (CBFFWS)

CDERA Caribbean region, 2000

For the CBFFEW, when the accumulated rain reaches any of the three predefined levels, the alarm unit gives signal by light and buzzer to the gage reader and, at the same time, dials residents and disaster management organizations.

Intended Users: Local, community leaders

Key Stakeholders: Local Government, Community

Scale of Implementation: Regional, Local and/or community level

Financial Requirements: CBFFWS equipment comprise of (1) rain receiver, (2) rain water storage, (3) sensor (sensing rods) and (4) alarm unit. Communication devices are also needed to make the system work, alarm system

Human Resource Requirements: Base station staff, equipment technicians, information analyst

Reference: <http://goo.gl/S9A7A>

3.6 Community Flood Information System (CFIS)

Centre for Environmental and Geographic Information Services (CEGIS), Riverside Technologies inc (RTi), 2006

CFIS uses the WATSURF model, a software that takes into account the physiographic of flood plains to predict how changes in the water levels of major rivers will affect specific inland areas. Information generated from the WATSURF model is faxed daily to various district offices and the upazila offices. At the union level locally based volunteers receive coded SMS daily which informs them how much the water level is about to rise or fall in their specific area by next 48 hours, and they put this information up daily on designated bulletin boards at the union parishad offices. At the community level, daily SMS are sent to local volunteers who put up color-coded flags to warn the people.

Intended Users: Local, community leaders

Key Stakeholders: local government or NGO/ PO incharge of maintaining and monitoring the software

Scale of Implementation: Local level, community

Financial Requirements: WATSURF model, computer, bulletin board, signal devices (flags) cell phone, radio and communication devices

Human Resource Requirements: IT Personnel, WATSURF software specialist and other personnel necessary for communication

Reference: <http://goo.gl/LRBsT>

3.7 Community-Operated Early Warning Systems in Central America

Galileo University, 2000

Measure rainfall, river levels, determine if floods are possible via simple protocols and execute emergency plans if floods are about to occur. The observers located throughout the watershed measure and transmit rainfall and river level data to a local center where data is analyzed and a forecast is made concerning probable floods. This center then transmits via the same radio network the information to the communities in the flood plains and to local authorities.

Intended Users: Local government, community

Key Stakeholders: Local Government, Community

Scale of Implementation: Local level, community

Financial Requirements: Flood monitoring equipment (plastic rain gauges, staff and river gauges, communication devices)

Human Resource Requirements: Volunteer observers, community coordinator

Reference: http://www.eird.org/eng/revista/No4_2001/pagina11.htm

3.8 Community Warning System (CWS)

Community Awareness and Emergency Response (CAER), Contra Costa County, California, USA, 2000

The Community Warning system is an emergency warning system that consists of alert, notification and education. The alert and notification features are linked by a radio frequency network, and are designed to function when telephone systems fail. The system's design features multiple safe-guards such as back-up power at each broadcast point, operation on multiple radio frequencies and four broadcast towers within the county to receive and broadcast signals. The CWS includes a system of outdoor sirens that can be quickly sounded by a large industry in case of hazardous material emergencies. Emergency response agencies can also activate the warning system for transportation and other types of incidents.

Intended Users: Community Leaders and Decision Makers, Emergency Response Agencies

Key Stakeholders: Local Government Unit, Emergency Response Agencies, Schools and Industries, Citizens

Scale of Implementation: Local level, community

Financial Requirements: Radio (Multi-Frequency), Outdoor Sirens, Broadcast Towers, Emergency Alert Receivers (EARS), and maintenance costs.

Human Resource Requirements: Communication technicians, broadcasters, radio operators, emergency responders

Reference: <http://www.cococaer.org/prepare.html>

3.9 Early Warning Flood Detection Systems for Developing Countries

Elizabeth Basha and Daniela Rus, 2000

Proposes a low-cost early warning system for floods that is reliable, maintainable and accessible for nontechnical individuals/ personnel. This system is divided into four tasks: event prediction, authority notification, community alert, and community evacuation

Intended Users: National and local government

Key Stakeholders: Ordinary citizens/ community members, community leaders, local government officials

Scale of Implementation: Local level, community

Financial Requirement: Radio, rain gauges, communication devices, raincoats, flashlights,

Human Resource Requirements: Volunteers, information coordinator, community

Reference: <http://groups.csail.mit.edu/drl/wiki/images/e/e0/BashaICTD07SAT.pdf>

3.10 Flash Flood Alarm System (FFAS)

(Not identified)

A flash flood alarm system consists of a water-level sensor(s) connected to an audible and/or visible alarm device located at a community agency with 24-hour operation. Water levels exceeding one or more preset levels trigger the alarm.

Intended Users: National and local government

Key Stakeholders: Local governments are likely to fund this warning system which they will eventually maintain. Citizens as recipient of information

Scale of Implementation: Local level, community

Financial Requirements: Sensor Networks

Human Resource Requirements: Technical experts on flooding, technicians for the sensors

Reference: <http://www.weather.gov/oh/docs/alfws-handbook/chap5.pdf>

3.11 Flood Early Warning System (FEWS)

Distributed Robotics Lab (DRL), 2004

FEWS presents new techniques for distributing the computation of flood detection within a wireless sensor network, grounding the research in reality through the design and installation of an early warning system for flooding in a developing country.

Intended Users: National and local government

Key Stakeholders: Local government and civil society organizations or international funding institutions may be the source of funds in order to install the system

Scale of Implementation: Local level, community

Financial Requirements: Sensor Networks, Communication devices

Human Resource Requirements: Technical experts on flooding, technicians for the sensors

Reference: <http://groups.csail.mit.edu/drl/wiki/index.php/floodews>

3.12 Integrated Flood Observing and Warning System (IFLOWS)

NOAA US National Weather Service, 2000

The Integrated Flood Observing and Warning System is a wide-area network of ALERT-type systems with enhanced, full, two-way communications capability (voice, data, and text). These systems serve as regional data collection and information dissemination networks. IFLOWS software handles intercomputer networking and information transfer. IFLOWS computers collect and process remote sensor information; act as data concentrators, allowing more information to pass over a given communications channel in a fixed period of time; and serve as ports into regional communications networks. If desired, IFLOWS can serve as a standalone system similar to ALERT.

Intended Users: National and local government

Key Stakeholders: The local government will be crucial in funding the installation and maintaining the operation of the IFLOWS system. IFLOWS is largely dependent on the base stations and the personnel who maintain it. Citizens are only recipient of the information/ early warning

Scale of Implementation: Regional, Local and/or community level

Financial Requirements: ALERT and IFLOWS Software, computers, Internet connection, electricity, communication devices, backup batteries

Human Resource Requirements: Alert and IFLOWS Software Operator, Base station staff (data processor, IT technician, communication technicians)

Reference: <http://www.afws.net/>

3.13 Landslip Warning System (LWS)

Hong Kong GEO, 2000

Landslip Warning System (LWS) is an internet based early warning system which has been in operation in Hong Kong to alert the public to the risks of landslides during heavy rain situations. The issuance of landslip warning also triggers emergency responses among the government departments, mobilizing staff and other resources to deal with landslide incidents.

Intended Users: National and local government

Key Stakeholders: Regional and local governments

Scale of Implementation: Local and community level

Financial Requirements: Rain Gauges (110), computers with internet and specialized data monitoring software

Human Resource Requirements: A team composed of IT staff, media liaison officer, geological and hydrometeorological information analysts

Reference: http://www.wmo.int/pages/prog/amp/pwsp/documents/Wong_Landslip.pdf

3.14 Manual Local Flood Warning System (LFWS)

NOAA US National Weather Service, Federal Agencies and other organizations

The Manual Local Flood Warning System is a simple and inexpensive self-help flood early warning system comprised of a local data collection system, a community flood coordinator, a simple-to-use flood forecast procedure, a communication network to distribute warnings, and a response plan.

Intended Users: Local government, community

Key Stakeholders: Local Government, Community

Scale of Implementation: Local and community level

Financial Requirements: Flood monitoring equipment (plastic rain gauges, staff and river gauges, communication devices)

Human Resource Requirements: Volunteer observers, community coordinator

Reference: <http://www.weather.gov/oh/docs/alfws-handbook/chap5.pdf>

3.15 Operational Solutions for the Management of Inundation Risks in the Information Society (OSIRIS)

European Union, Sogreah, 2000

OSIRIS is a web-based flood information system that provides methods and facilities for managing hydrological emergencies, using new communication technologies and strong interaction with citizens. OSIRIS presents concrete, operational solutions for local officials, flood-warning services, civil safety departments, etc. The main objectives of the OSIRIS project are to increase the awareness of the citizens concerning inundation risks, to prepare citizens and crisis managers for efficient protection and rescue measures during inundation crisis periods, to improve the quality of information, and to increase the rapidity and flexibility of access to information using emergent information and communication technology.

Intended Users: National and local government

Key Stakeholders: Local Officials, flood warning services, citizens, civil safety

Scale of Implementation: Local level, community

Financial Requirements: Computers, Internet connection, electricity, communication devices

Human Resource Requirements: A team of IT personnel, Information analyst, communication technician and early warning personnel

Reference: <http://www.weather.gov/oh/docs/alfws-handbook/chap5.pdf>

3.16 People-Centered Community-Based Early Warning Systems (CBEWS)

IFRC - International Federation of Red Cross and Red Crescent Societies, 2002

The People-Centered CBEWS is a multi-hazard warning system that ensures a combination of a bottom-up and top-down approach in terms of risk mapping, awareness raising, communication flow and others

Intended Users: Local, community leaders

Key Stakeholders: Local Officials, national officials, RCRC, community members

Scale of Implementation: Local and community level

Financial Requirements: materials for mapping, communication devices,

Human Resource Requirements: community organizers, staff and volunteers for awareness raising, training, risk assessments, contingency planning and early warning

3.17 Reinforce Local Structures and Early Alert Systems (RELSAT)

European Union, 1999

RELSAT is a participatory warning system for floods, where water levels are continuously measured and monitored in upper river areas. This information is transmitted by radio to a local base for evaluation, assessment, flood prediction and warning.

Intended Users: National and local government

Key Stakeholders: Local governments are likely to fund this warning system which they will eventually maintain. Citizens as recipient of information

Scale of Implementation: Local level, community

Financial Requirements: Communication Equipment, Communication Devices

Human Resource Requirements: Trained operators and other staff for the local base (information analyst, communication personnel)

Reference: <http://www.weather.gov/oh/docs/alfws-handbook/chap5.pdf>

B. Contingency Planning Tools

3.18 The Livelihood Assessment Tool Kit

ILO and FAO, 2009

The Disaster Livelihood Assessment Toolkit (LAT) is a set of tools used for conducting a thorough assessment of the impacts of disasters on the livelihoods of people living in the affected areas and to identify opportunities and capacities for recovery. It is intended to assist local and central government authorities, as well as partner NGOs and international community in their decision-making for providing immediate assistance to disaster affected areas and especially to subsequent livelihood recovery plans and interventions. The LAT consists of three inter-related tools: (1) the Livelihood Baseline Assessment (undertaken pre-disaster), (2) the Immediate Livelihood Impact Appraisal (undertaken immediately after the occurrence of the disaster), and (3) the Detailed Livelihood Assessment (undertaken within 90 days after the disaster). Each of these three tools of the LAT has their own purpose but they are very much inter-related with regards to their function in the whole assessment process.

Intended Users: Local Government, National Government

Key Stakeholders: Local Government, communities, national government

Scale of Implementation: Communities, Local, National

Financial Requirements: Requires funds for implementing the assessment

Human Resource Requirements: Assessment team can be composed of trained government personnel and other volunteer stakeholders. Some technical experts in using the assessment tools may be needed to assist or facilitate the process of assessment.

Reference: http://www.fao.org/fileadmin/templates/tc/tce/pdf/LAT_Brochure_LoRes.pdf

3.19 Awareness and Preparedness for Emergencies at Local Level (APELL)

Industry & Environment Office, UNEP, 1980s

APELL features a detailed 10-step process for emergency preparedness and implementation. The APELL process focuses mainly on community awareness and participation. Its core concepts are participatory planning process, education and information dissemination. It can be applied in different natural hazards like earthquakes, tsunami and floods.

Intended Users: Local decision-makers and technical personnel

Key Stakeholders: With the help of community leaders, ordinary citizens/ community members can use the steps themselves in order to draft the disaster preparedness plan of the community. Local government officials, private and government-owned industries, community leaders and interest groups can also lead or take part in the process

Scale of Implementation: Local level

Financial Requirements: supplies and materials needed for organizing the community

Human Resource Requirements: Community organizers, planning facilitators

Reference: <http://www.unep.fr/scp/sp/>

3.20 PILLARS Guide - Preparing for Disaster

Isabel Carter, Tearfund, 2002

PILLARS provides background information, suggestions for community-based activities and practical information about actions to take before, during, and after a disaster. It encourages preparedness measures that can be done before earthquakes, floods and typhoons/ cyclones.

Intended Users: A small group of local people (in isolation or as part of a regular group meeting of farmers, literacy trainees, mothers, etc.)

Key Stakeholders: The citizens are the main stakeholders for the PILLARS Guide. Local Government Involvement may be utilized but is not required)

Scale of Implementation: Local level

Financial Requirements: PILLARS may be carried out with minimal funding

Human Resource Requirements: PILLARS may be carried out voluntarily

Reference: <http://goo.gl/dGyTt>

C. Recovery and Rehabilitation Tools

3.21 Rebuilding for a More Sustainable Future: An Operational Framework

Federal Emergency Management Agency, 2000

Rebuilding for a More Sustainable Future provides guidance to local jurisdictions in the post-disaster response and recovery process. The guide facilitates and supports community-based planning initiatives; promotes a sustainable redevelopment component into the overall reconstruction effort; presents information on opportunities, resources, and potential technical assistance available for local jurisdictions.

Intended Users: Planners, state and local agencies, NGOs, emergency management officials, emergency staff, local jurisdictions

Key Stakeholders: Citizens, local officials, emergency planners, business leaders, civic associations, health care professionals, construction and housing sectors

Scale of Implementation: Local level - village, town, or city

Financial Requirements:The level of planning requires technical expertise. Promotes the use of disaster mitigation tools that will require financial resources to operate

Human Resource Requirements: Requires the services of a Sustainability Planner.

Reference: <http://www.fema.gov/plan/mitplanning/rebuilding.shtm>

IV. Disaster Mitigation Tools

4.1 Bringing the Plan to Life: Implementing the Hazard Mitigation Plan(How-to-Guide No. 4)

Federal Emergency Management Agency, 2003

Bringing the Plan to Life provides suggestions for ensuring that the community's mitigation plan is successfully implemented, maintained and kept up to date. This volume includes the tools needed to effectively manage projects, evaluate their effectiveness, and establish mitigation as a fundamental element of local administration.

Intended Users: State governments, local governments, tribes

Key Stakeholders: Elected Officials, Local Administrators, Nonprofit Organizations, Businesses, Citizens, Academic Institutions

Scale of Implementation: state, local, community level

Financial requirement: Applicable to communities of various sizes and varying ranges of financial and technical resources. Funds are needed to develop the comprehensive mitigation plan; technical data is needed

Human resource requirement: Technical experts for mitigation planning may be necessary. Mitigation planning can be incorporated or integrated in daily function of the government.

Reference: <http://goo.gl/991UW>

4.2 Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies (How-to-Guide No. 3)

Federal Emergency Management Agency, 2003

Developing the Mitigation Plan focuses on how to use the information generated by the risk assessment so that communities can set long-term mitigation goals; identify possible solutions and their economic, social, and environmental costs; and draft a long term strategy.

Intended Users: State governments, local governments, tribes

Key Stakeholders: Involves the public, citizens, business owners, elected officials to ensure fair representation

Scale of Implementation: State, local, community level

Financial requirement: Applicable to communities of various sizes and varying ranges of financial and technical resources; funds are needed to develop the comprehensive mitigation plan; technical data is needed

Human resource requirement: Use of technical experts for mitigation planning may be necessary. Mitigation planning can be incorporated or integrated in daily function of the government

Reference: <http://www.fema.gov/library/viewRecord.do?id=1886>

4.3 Getting Started: Building Support for Mitigation Planning (How-to-Guide No. 1)

Federal Emergency Management Agency, 2002

Getting Started explains the general process of disaster mitigation planning and the organizational steps required for a successful mitigation effort. It describes the types of people, agencies, and partners that are fundamental to mitigation planning; how to identify stakeholders; and how to include citizens throughout the planning process. This volume of the planning guides prepares communities for the political and financial challenges that often accompany initiatives for positive change.

Intended Users: State governments, local governments, tribes, communities

Key Stakeholders: Involves the public through the planning process. Public involvement may include workshops, public meetings or public hearings. Promotes multi-jurisdictional approach to mitigation planning. Provides forum for engaging partnerships to reduce the effects and costs

Scale of Implementation: State, local, community level

Financial requirement: Applicable to communities of various sizes and varying ranges of financial and technical resources; funds are needed to develop the comprehensive mitigation plan; technical data is needed

Human resource requirement: Use of technical experts for mitigation planning may be necessary. Mitigation planning can be incorporated or integrated in daily function of the government

Reference: <http://www.fema.gov/plan/mitplanning/howto1.shtm>

4.4 Keeping Natural Hazards from Becoming Disasters: A Basic Workbook for Local Governments

North Carolina Division of Emergency Management; Hazard Mitigation Planning Clinic, 2003

This workbook helps in developing and implementing a successful strategy to reduce a community's vulnerability to natural hazards. This workbook helps explore the current state of your community, including identifying hazard areas, existing policies that affect those areas, defining goals for increasing community resilience, identifying mitigation strategies, and assigning responsibility for action.

Intended Users: Local policy makers, business leaders, planners, builders and developers, environmental and conservation groups, private citizens

Key Stakeholders: May seek involvement from business sector, community groups and the general public

Scale of Implementation: Local, community level

Financial requirement: Low financial requirement on the user but will require funding for the project components

Human resource requirement: No need to hire technical experts. May use existing staff support

Reference: <http://www.dem.dcc.state.nc.us/mitigation/Library/planningGuide.pdf>

4.5 Planning for a Sustainable Future: The Link between Hazard Mitigation and Livability

Federal Emergency Management Agency, 2000

Planning for a Sustainable Future outlines the ingredients of effective hazard mitigation planning and the steps necessary to create a successful mitigation plan. It is primarily intended to show how communities can use hazard mitigation planning and disaster recovery planning to implement sustainable development at the local level. It demonstrates methods for incorporating hazard mitigation planning into the broader goals of enhancing a community's environment, economy, and social wellbeing through policies that encourage sustainable development.

Intended Users: Local governments, community members

Key Stakeholders: Emphasize the participation of key stakeholders, the general public, at-risk homeowners, business owners, managers of critical facilities, technical staff

Scale of Implementation: Community level

Financial requirement: Requires financial resources to undertake the planning procedures.

Human resource requirement: Use of technical experts for mitigation planning may be necessary. Mitigation planning can be incorporated or integrated in daily function of the government

Reference: <http://www.fema.gov/plan/mitplanning/linkmitliv.shtm>

4.6 Planning Safer Communities: Land use planning for natural hazards

Emergency Management Australia, 2002

These guidelines were developed to help communities reduce the risks from natural hazards. The central theme is that natural disasters are caused by interaction between the three inter-related factors of hazards, communities and the environment. This interaction means that natural hazard risk reduction is a part of community safety and sustainability, including environmental sustainability. While the guidelines focus on natural hazards, the impact of a natural hazard on a community may occur by a natural hazard impacting on technology, for example critical infrastructure, which in turn impacts on the community. The impact on critical infrastructure (for example, water and sewage, electricity and gas supplies, communications and transportation, and facilities such as hospitals) may be severe and must be considered in the planning process. The purpose of the guidelines is to demonstrate how integrated land use planning can be used to reduce the impact of natural hazards and, where possible, avoid risk to life, property and environmental systems from natural hazards. The focus is on risk reduction at the interface between communities and the natural environment, and integrating risk reduction into the land use planning process. Land use planning then guides the use of land and can effectively reduce risk and enhance sustainability for areas prone to hazards such as flooding (including storm surge), fire, landslide, earthquake, strong wind and coastal erosion.

Intended Users: Local government planners, planning practitioners, emergency managers, people concerned with community safety

Key Stakeholders: Promotes the cooperation and collaboration between all levels and sectors or government, an integrated approach to decision making, and a transparent partnership between government, the community and private sector

Scale of Implementation: National, Local, Community level

Financial requirement: Planning process requires funding support

Human resource requirement: Land use planning team

Reference: <http://goo.gl/1lt03>

4.7 Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters

World Bank GFDRR, 2009

The handbook describes different tasks in post disaster housing and community reconstruction projects and provides pointers for policy makers and project managers on how to go about implementing an effective reconstruction from the reconstruction needs assessment to the planning, implementation. The handbook developed for policy makers and program managers, also emphasizes the importance of establishing a policy to guide reconstruction that will create a long-term impact to the people.

Intended Users: Local Government, National Government

Key Stakeholders: Local Government, communities, national government

Scale of Implementation: Communities, Local, National

Financial requirement: The reconstruction program as well as the planning process may need a huge funding support.

Human resource requirement: Although the tool was intended for policy-makers and project managers involved in post-disaster reconstruction, specialized technical expertise for the different tasks in the whole process of reconstruction may be needed.

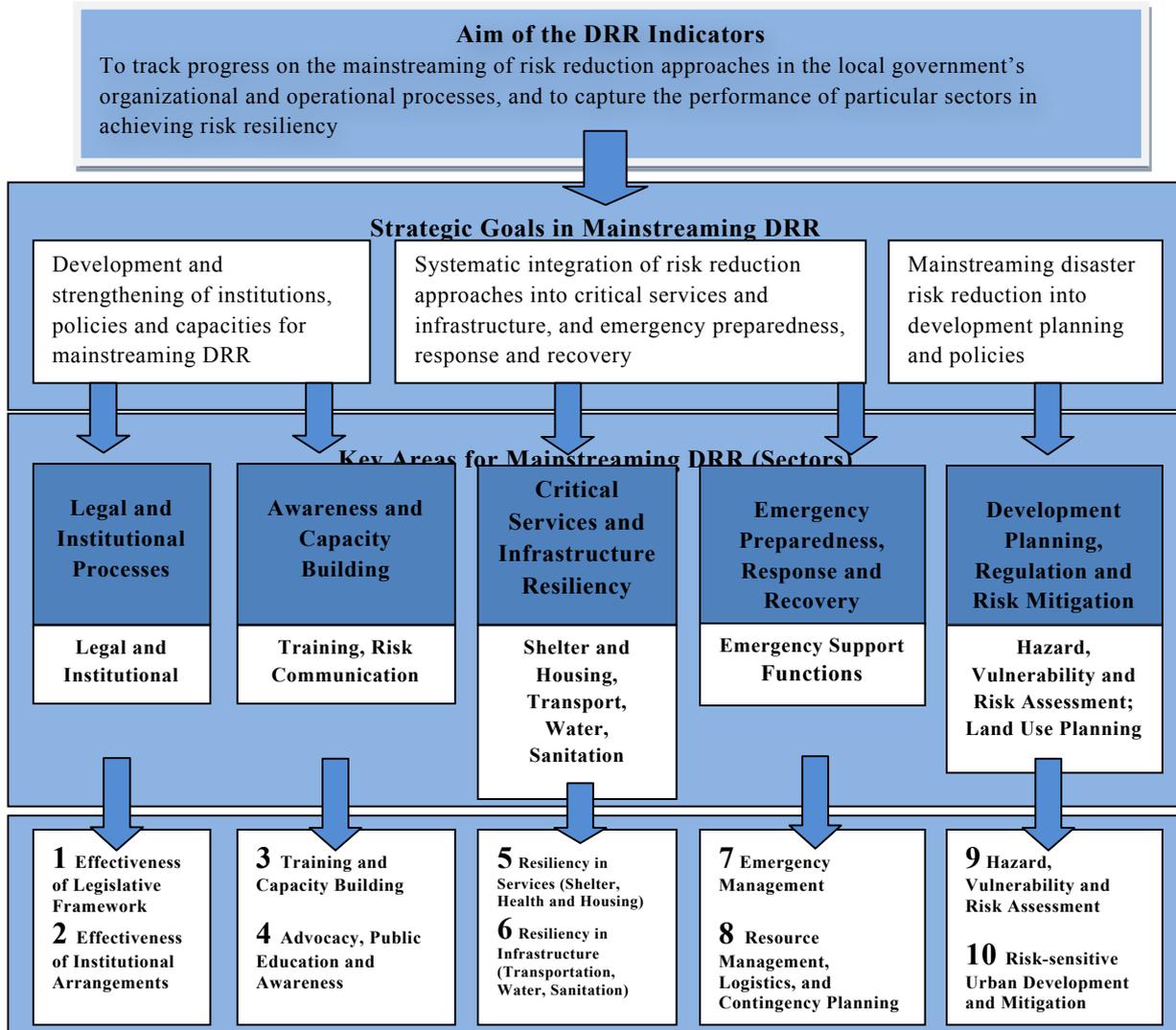
Reference: <http://www.housingreconstruction.org/housing/hbook>

Annex 4. Disaster Risk Resiliency Indicators (DRRI)

Development of the assessment methodology and framework

EMI used the Disaster Risk Resiliency Indicators (DRRI) as the basis for the assessment. The DRRI is a set of ten (10) indicators that are used to establish initial benchmarks to measure to what extent risk reduction approaches have been mainstreamed in the organizational, functional, operational and development systems and processes of local governments. The indicators capture the potential for achieving disaster resilience in particular sectors, based on pre-defined benchmarks and performance targets. Anchored on EMI's concept and approach to DRR mainstreaming and aligned with the five (5) elements of the Hyogo Framework for Action and the 10 Essentials for Making Cities Resilient, the DRRI is divided among 5 key areas: (1) Legal and Institutional Processes and Policies; (2) Public Awareness and Capacity Building; (3) Critical Services and Infrastructure Resiliency; (4) Emergency Preparedness, Response, and Recovery Planning; and (5) Development Planning, Regulation, and Risk Mitigation.

Aims, strategic goals and key areas for mainstreaming of the DRR Indicators



The rationale for applying the DRR indicators is illustrated in the figure above. As mentioned previously, the main aim of the indicators is to track progress on the mainstreaming of risk reduction approaches in a local government's systems and processes. That primary mainstreaming goal is further divided into three strategic goals. Each of the goals corresponds to one or more key areas affecting a local government's disaster resilience. Finally, two indicators corresponding to each of the five key areas of mainstreaming are identified, the descriptors for which provide a measure of the performance of the local government in mainstreaming disaster risk reduction in a particular key area.

The five (5) key areas for mainstreaming DRR, their corresponding indicators, and the characteristics evaluated are listed below:

Five key areas for mainstreaming DRR

Areas	Indicators	Characteristics
Legal and Institutional	Indicator 1: Effectiveness of Legislative Framework	<ul style="list-style-type: none"> • Laws, acts and regulations • DRR Policies • Compliance and accountability • Resource mobilization and allocations (financial, human)
	Indicator 2: Effectiveness of Institutional Arrangements	<ul style="list-style-type: none"> • Organizational structures that define roles and responsibilities • Review, update, enforcement, monitoring and reporting process • Partnerships with civil society and communities
Awareness and Capacity Building	Indicator 3: Training and Capacity Building	<ul style="list-style-type: none"> • Institutional commitment to training and capacity building with dedicated resources and evaluations • Knowledge management, research and development
	Indicator 4: Advocacy, Communication, Education and Public Awareness	<ul style="list-style-type: none"> • Commitment to advocacy and public awareness and education programs that engage all relevant audiences and stakeholders including civil society and community organizations • Commitment to participatory processes and community involvement • Research facilitation, use of information technology and communication (ITC) to disseminate information • Pro-active and constructive media relations
Critical Services, Infrastructure Resiliency	Indicator 5: Resiliency of Critical Services	<ul style="list-style-type: none"> • Inclusive, participatory and transparent shelter and housing policies and programs • Protection of living (i.e. shelter) and livelihood conditions (i.e. access to and availability critical services including opportunities for livelihood) against disasters • Resiliency of health services to deliver services during a disaster
	Indicator 6: Resiliency of Infrastructure	<ul style="list-style-type: none"> • Resiliency of water, sewer and storm drain systems • Resiliency of transportation systems • Contingency for delivery of essential services

Areas	Indicators	Characteristics
Emergency Preparedness, Response Planning	Indicator 7: Emergency Management	<ul style="list-style-type: none"> • Functioning Emergency Operations Plan with Basic Plan and ESF system • Year-round response planning and functioning standard operating procedures • Drills and Simulation involving relevant stakeholders including civil society and communities • Preparedness programs for first responders and leaders and representatives of communities at risk
	Indicator 8: Resource Management, Logistics and Contingency Planning	<ul style="list-style-type: none"> • Self analysis of resource management and logistics • Contingency planning for key institutions for pre-defined scenario analysis and planning parameters • Ability to manage delivery of resources to most vulnerable populations
Development Planning, Regulation and Risk Mitigation	Indicator 9: Hazard, Vulnerability and Risk Assessment	<ul style="list-style-type: none"> • Awareness of hazards and vulnerabilities (natural and man-made) • Risk identification and assessment, vulnerability and capacity analysis • Impact assessments (loss analysis) by relevant sectors and segments of populations at risk • Use of forecasting and early warning in preparedness and response planning
	Indicator 10: Risk-Sensitive Urban Development and Mitigation	<ul style="list-style-type: none"> • Risk-sensitive land use planning and urban re-development, • Enforcement of codes and standards, particularly in shelter and housing programs; quality control norms in construction • Capital investments in disaster risk reduction • Reinforcing and retrofitting of critical assets and infrastructure

The DRRI allocates a 1-5 ranking for each of the ten (10) indicators that fall under the five (5) main areas of mainstreaming, using five Performance Target Levels of attainment. Each indicator has specific descriptors for its corresponding attainment levels, as well as guide questions that can be used to provide specific details to support the assigned ranking. The detailed guide questions and possible rankings for Indicator 1, Legal and Institutional Processes, are provided below as an example.

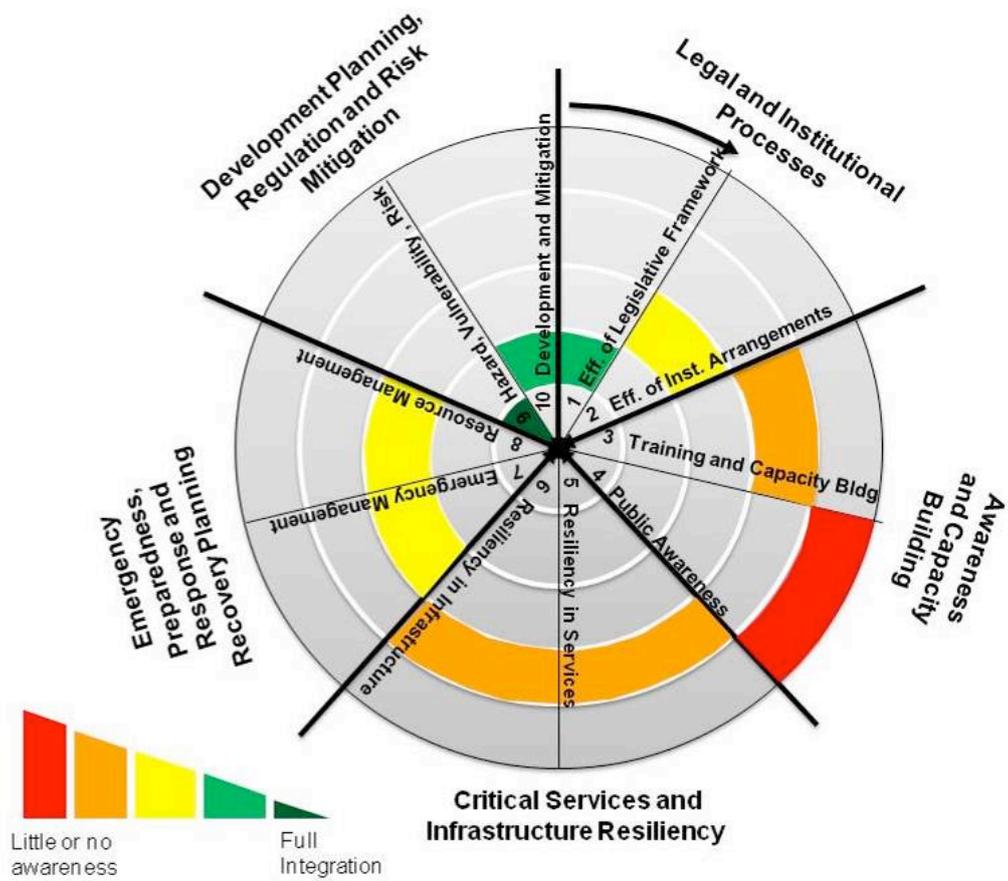
Sample DRRI Ranking Sheet

<p><u>INDICATOR 1: Effectiveness of Legislative Framework</u></p> <p>The aim of this indicator is to measure the effectiveness of laws, policies, ordinances and regulations for achieving risk reduction.</p> <p>GUIDE QUESTIONS</p> <ul style="list-style-type: none"> • How are DRR policies articulated? • How well are the DRR policies complied with? How well is accountability practiced? • Are there sufficient resources (financial, human) allocated for DRR? How are they sustained? 					<p>Group</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 5px auto;"></div> <p>Round</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 5px auto;"></div>
Level of Attainment					
<p>Level 1</p> <p><input type="checkbox"/></p> <p>Very Low</p> <p>Little or no understanding of relevance or importance of DRR</p>	<p>Level 2</p> <p><input type="checkbox"/></p> <p>Low</p> <p>Local laws and policies do not yet reflect relevant national or provincial legislation on DRR</p>	<p>Level 3</p> <p><input type="checkbox"/></p> <p>Moderate</p> <p>Recognition of the need to coordinate legislation and policies to reduce disaster risks</p>	<p>Level 4</p> <p><input type="checkbox"/></p> <p>High</p> <p>Existing legislative framework for disaster management</p>	<p>Level 5</p> <p><input type="checkbox"/></p> <p>Very High</p> <p>Existing DRR laws and policies on disaster risk with realistic, achievable goals for mainstreaming</p> <p>Compliance and accountability measures are <u>effective</u> and <u>operational</u> with policy and practice strictly following the law</p>	
<p><u>Explanation/Comments:</u></p>					

Performance Target Levels for Indicator 1: Effectiveness of Legislative Framework

Level 1	Overall there is little or no understanding of the relevance and importance of disaster risk reduction and this is reflected in its laws, policy, practice and public statements.
Level 2	Relevant legislation exists at state or national level, but these are not paired with the mandates and authority of local government. There is awareness of this gap by some individuals, and such knowledge may translate into initiating legislation to empower institutional bodies and local authorities for DRM.
Level 3:	The need for legislation and policies to be linked in a coordinated approach for reducing disaster risks is generally recognized. Such knowledge may translate into action, and some relevant legislation is passed, but compliance and accountability remains <u>ineffective</u> with <u>insufficient application</u> within policy and practice.
Level 4	The institution has a legislative framework for disaster management with voluntary compliance <u>encouraged and successful</u> . Policy and practice already reflecting pending legislation.
Level 5:	The institution has laws and policies on disaster risk reduction with realistic, achievable goals for mainstreaming. This is understood and accepted across the organization. Compliance and accountability measures are <u>effective</u> and <u>operational</u> with policy and practice strictly following law.

The results of the ranking for each particular indicator can be represented through a graphic visualization of the mainstreaming of disaster risk reduction within the local government at a given point in time. In the schematic below, green is positive territory and red/orange is negative territory. An institution in yellow is in transition between positive and negative territory, meaning there is commitment, but this may not be sustainable. The “bull’s eye” representation depicts in one glance how close to the target a local government is in meeting the goal of fully integrating DRR within certain key areas. The schematic is flexible, and can be used to show the evolving mainstreaming of an institution through time.



Annex 5. Regional DRM Initiatives by External Agencies in Asia Pacific

Establishment of the Hyogo Framework for Action (HFA) in January 2005 resulted in increased attention to policy planning for disaster risk management. Since then significant work has been made in many countries to establish national platforms and to strengthen legislative frameworks for disaster risk management.

Many countries are also implementing disaster mitigation, risk reduction and climate change adaptation programmes at provincial and/or regional levels. These include mainstreaming of DRR into national policy and legislation, strengthening of disaster risk management (DRM) capacities at the national level, establishing early warning systems, flood prevention and community-based DRR. The majority of these activities are co-funded by international development agencies and donors and are implemented in partnership with central and local government agencies as detailed below. The external funding agencies working with government agencies increasingly seek to ensure participation of communities in the planning and implementation of the disaster preparedness and risk management programmes.

For instance, in 2007 with support from UNDP, the government of Vietnam initiated community-based disaster risk management (CBDRM) for implementation in mostly rural areas. The programme focused on supporting disaster preparedness and response capacities at the provincial government level. As a result, the government trained large numbers of trainers in each province and these trainers are now training staff of local governments and the Red Cross branches. This on-going programme encourages national and provincial governments to ensure greater participation from the community.

Many urban DRR/CCA programmes include an explicit livelihood component. Recognizing the vital importance of a stable income for urban residents, the programmes support activities such as teaching entrepreneur skills, income generation schemes, and include micro-credit components.

A profile of Urban DRM programme and projects that are being implemented by major external organizations are given below:

Asian Development Bank (ADB)

Asian Disaster Preparedness Center (ADPC)

Institute for Social and Environmental Transition (ISET)

Asian Coalition for Community Action (ACCA) Program

United Nations Development Programme (UNDP)

United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP)

United Nations Human Settlements Programme (UN HABITAT)

Asian Development Bank (ADB)

ADB supports a wide range of urban development (manily infrastructure) projects, water and flood management projects throughout the region. Additionally following projects are being implemented in cooperation with national governments.

- Risk Screening Tool: ADB has developed a Disaster and Climate Change Risk Screening Tool for. to be part of the country risk assessment process. The tool helps determine if proposed projects are likely to be exposed to natural hazards, as well as to determine whether proposed projects may exacerbate hazard risk.
- Country Hazard Profiles: Three hazard profiles have been developed for Indonesia, Nepal, and the Philippines to provide information on major hazards, risk exposure, government policies, relevant government initiatives, DRR-CCA integration, DRM gap analysis,
- School Seismic Safety Project: The Government of Nepal has identified safety of school students and raising disaster awareness as a priority in its School Sector Reform Program. However, it has few resources to implement remedial actions. Under the umbrella of a consortium of development partners and in coordination with the Government, ADB is taking the lead to implement a school seismic safety program that will incorporate multi-hazard reduction measures.
- Disaster Risk Finance /DRF) Initiatives: Two projects the first in Indonesia and the Philippines, and a second in Viet Nam. The projects will (i) conduct feasibility studies for developing DRF solutions for urban areas in the three DMCs; (ii) develop disaster risk profiles based on available hazard, exposure, and loss data; (iii) develop disaster risk models to define hazards, their location, and impact severity that will trigger financing under a DRF program; and (iv) support the design and implementation of DRF projects.

Asian Disaster Preparedness Center (ADPC)

ADPC's work in urban DRM is set within the framework of its Strategy Asia 2020, which seeks to expand the organization's reach from its current status of 48 cities to 200 cities by the year 2020. This strategy was conceptualized in 2007, based on the learnings from the Asian Urban Disaster Mitigation Program (AUDMP) funded by the U.S. Agency for International Development (USAID). The strategy involves four key areas:

- Development of decision-making support systems for planning and building safer cities
- City emergency management and response planning
- Partnerships for public awareness
- Knowledge development and capacity building

Recent programs by ADPC on urban DRM are:

- Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE, 2005-2010, Funded by USAID)

The activities under this program were intended to build upon the outcomes of the AUDMP. The program's goal was to reduce the vulnerability of urban communities to hydro-meteorological disasters in five secondary cities in South and Southeast Asia

through enhanced preparedness and mitigation. The cities selected for the program were: Chittagong, Bangladesh; Hyderabad, Pakistan; Dagupan, Philippines; Kalutara, Sri Lanka; and Da Nang, Vietnam. From 2008 to 2009, additional cities were added in Bangladesh (Jamalpur), the Philippines (Pasig), Sri Lanka (Matara), and Indonesia (Jakarta). These cities are all rapidly urbanizing areas that have been impacted by hydro-meteorological disasters in recent years, and whose city authorities have shown interest in DRM and are willing to participate in project activities.

Secondary cities were selected as the target areas of the program because most resources are already focused on the main urban centers. Also, vulnerability within secondary cities is not as high as in major metropolises, and implementation is often not as bureaucratic.

The first component of the program consisted of City Demonstration Projects, where city profiles were developed and hazard, vulnerability and risk assessments were undertaken for each locality, and stakeholder capacity building and planning workshops were conducted. Various IEC materials were also developed under this component for different target stakeholders in Bangladesh, Indonesia, the Philippines and Vietnam.

The second component was focused on Capacity Building, under which a training program was developed to enhance the capacities of partners from national and local government institutions, NGOs and private organizations to prepare for and respond to hydro-meteorological disasters. Two regional courses were carried out, one on Governance and DRR, and the other on Hydro-meteorological Risk Management and Community Preparedness. Training programs were also conducted in each country on community-based DRM, community-based emergency response, and other relevant topics.

The third program component emphasized Advocacy for Mainstreaming. Within this component, guidelines on land use planning and constructions standards were incorporated into some of the city demonstration projects. A strategy paper on Mainstreaming DRM in the Urban Local Governance Sector was also developed in Sri Lanka, while in the Philippines consultations were undertaken with national agencies and local government units on Mainstreaming DRM in Local-level Comprehensive Development Planning. A working paper on mainstreaming DRR into urban development and guidelines on integrating DRR into land use planning and housing were also developed for adoption by the Regional Consultative Committee on Disaster Management.

The last component focused on Information and Networking. Here, two approaches were utilized, with one operating at a national level and the other at the regional level. The national strategy was geared towards identifying and documenting tools and resources from each of the city demonstration projects that could enrich existing knowledge within the region. The regional strategy was meant to develop and maintain support systems for the exchange of knowledge on urban DRM.

In terms of tools and resources, PROMISE was able to develop 11 case studies of sound urban DRM practices, which have been published under its Safer Cities series. A 4-volume guide on Urban Governance and Community Resilience was also published under the program as a reference for local government officials on urban DRM.

- Asian Program for Regional Capacity Enhancement for Landslide Impact Mitigation (RECLAIM, 2004-2010, Funded by the Norwegian Ministry of Foreign Affairs)

The goal of RECLAIM was to reduce landslide disaster vulnerability in Bhutan, India, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand through the achievement of the following objectives:

- Capacity development for national- and local-level specialists and decision-makers on landslide mitigation practices and their mainstreaming in governance and development;
- Increased collaboration between Norwegian institutes and their counterparts in Asia on landslide risk mitigation; and
- Promotion of good practices in the establishment and use of efficient landslide early warning systems

Activities conducted under the three RECLAIM components were:

- Regional capacity building and knowledge sharing on risk identification and risk reduction
- National-level trainings on landslide risk management
- Organization and documentation of landslide mitigation demonstration projects in the Philippines, Thailand, and Sri Lanka
- Establishment of regional network of landslide professionals

- Climate Data Digitization and Downscaling of Future Climate Projections in Nepal (CLIMATE Nepal, January- December 2011, Funded by Asian Development Bank)

The objectives of the program are to digitize available meteorological data in Nepal and build local capacity for localizing national-level climate change scenarios. Under the program, an internet portal will also be developed to access meteorological data and future climate change scenarios.

The types and quality of available data are significant issues facing the project, however ADPC also sees this engagement as an opportunity to advocate for appropriate data collection and management methods.

ADPC also has several projects with significant risk assessment components. These include:

- Thailand Country Project (Asian Cities Climate Change Resilience Network, 2008-2012)

Under this project, the institutional and governance capacities of several cities in Thailand for coping with climate change were analyzed in order to select two pilot cities that would be engaged in further project activities.

- Seismic Hazard and Vulnerability Mapping and Assessment of Three Municipalities in Bangladesh (United Nations Development Programme, 2009-2010)

In support of the Earthquake Risk Reduction Programme of UNDP's Chittagong Hill Tracts Development Facility, ADPC provided technical assistance for conducting seismic risk assessments in the municipalities of Rangamati, Bandarban, and Khagrachari.

- National Risk Profile of Lao People's Democratic Republic (United Nations Development Programme, 2010)

This project mapped all hazard-prone areas based on past disaster events; assessed the exposure and possible extent of losses in terms of people, property, economic activities, and other elements at risk; developed multi-hazard profiles to identify priorities for national DRR strategies.

- Earthquake Risk Assessment for Myanmar (Norwegian Ministry of Foreign Affairs, 2009-2011)

The project sought to review past and current seismic risk assessments; identify sources of seismic activity and assess seismic hazards in the country; determine which areas are most vulnerable to seismic hazards; conduct a risk assessment to understand the vulnerability of buildings and urban infrastructure; enhance the capacity of national agencies in seismic risk assessment through the support of international experts; and develop a strategy for seismic risk reduction.

- Nepal Hazard Risk Assessment (The World Bank, 2009-2010)

Project activities included a desk review of available data and documentation on historical losses from past disaster events, mapping of natural hazard risks and detailing of exposure various hazards, assessment of projected losses; identification of data gaps, and provision of recommendations for further work needed to complete a comprehensive quantitative risk assessment for Nepal.

- Regional Program for Pre-Disaster Natural Hazard Loss Estimation (Norwegian Ministry of Foreign Affairs, 2009-2011)

The project aimed to develop a methodology for the systematic collection of data and assessment of damages, which could then be used for long-term economic modelling. The methodology would form part of a training package to be conducted at regional and national levels to enhance the capacities of staff from national disaster management offices in Bangladesh, China, Nepal, Philippines, Sri Lanka, and Vietnam.

With respect to urban governance, ADPC has been active in the documentation of case studies and sharing of good practices. Some of the resources from these efforts are the previously mentioned cases from the Safer Cities series and the Urban Governance and Community Resilience Guides, project documents from mainstreaming demonstration projects in Sri Lanka and the Philippines, and additional case studies developed under the Good Urban Governance in South Asia initiative, among others.

In terms of capacity building in urban DRM, ADPC has run several relevant training courses:

- Urban Disaster Mitigation
- Earthquake and Tsunami Vulnerability Reduction
- Urban Flood Mitigation
- Construction Guidelines for Disaster-Prone Areas
- Mainstreaming DRR into Urban Governance
- Damage and Loss Estimation for Recovery Planning
- Hydro-meteorological Risk Assessment and Community Preparedness

From 2009-2010, ADPC also implemented Building Disaster Resilient and Safer Communities in Bangladesh, a project to build the capacities of community volunteers, teachers and students to participate in or implement DRR programs. The project developed several publications on child-centered and community-based DRR, such as:

- Child-centered Disaster Risk Reduction Guidelines
- Child-inclusive Community Risk Assessment
- Facilitator's Guidebook on Disaster Risk Reduction Training for Community Volunteers
- Facilitator's Guidebook on Community-Based Disaster Risk Reduction
- Facilitator's Guidebook on Urban Risk Assessment
- Manual on School Safety: Preparing Schools for a Safer Tomorrow

Institute for Social and Environmental Transition (ISET)

ISET is one of the 14 organizations implementing the Asian Cities Climate Change Resilience Network (ACCCRN), a program funded by the Rockefeller Foundation which aims to support the development of local approaches to building climate change resilience of institutions and systems serving poor and vulnerable communities in pilot cities in India, Indonesia, Thailand and Vietnam, share the knowledge generated in the development of such approaches, and raise donor awareness on the need for increased climate resilience investment. ACCCRN has four phases: (1) identification of city partners, (2) vulnerability assessments and development of urban climate change strategies and action plans, (3) implementation of urban resilience strategies, and (4) replication in other cities and dissemination of lessons learned. ISET's role is city engagement and capacity building.

ISET is also involved in the Asia-Pacific Regional Climate Change Adaptation Assessment, an initiative funded by USAID. The organization's involvement was in the conduct of preliminary consultations in the target countries of India, Indonesia, Thailand and Vietnam in order to identify priorities for adaptation.

Another project being implemented by ISET is Mekong-Building Climate Resilient Asian Cities (M-BRACE), which is supported by USAID. The project is an extension of the ACCCRN, and seeks to enhance national and local capacities in Thailand and Vietnam to develop climate resilient policies, plans and programs. The project also aims to develop guidelines and tools for good practice in urban climate resilience planning.

The Asian Coalition for Community Action (ACCA) Program

The Asian Coalition for Community Action Program (ACCA) is a three-year program of the Asian Coalition for Housing Rights (ACHR), and the program's target is to support a process of city-wide upgrading in 150 Asian cities. Community people are the primary doers in planning and implementing projects in which they tackle problems of land, infrastructure and housing at scale in their cities, in partnership with their local governments and other stakeholders.

The types and numbers of projects are: Paved roads and walkways (73 projects), Drainage lines (29 projects), Bridges (8 projects), Water supply systems, wells, pumps (64 projects), Electricity systems and street lighting (10 projects), Private and communal toilets (44 projects), Community centres (21 projects), Rice banks (3 projects), Children's library (1 project), Community fire- protection systems (2 projects), Tree-planting (7 projects), Solid waste and composting systems (18 projects).

Importantly, these small projects are all being planned and proposed by communities, through a city-wide process of prioritizing and agreement, and are being implemented by community people themselves, with large numbers of both direct and indirect beneficiaries

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

UNESCAP has been involved in disaster risk management for nearly 50 years, however the Commission's Committee on Disaster Risk Reduction and the IDD's Disaster Risk Reduction (DRR) Section are relatively recent additions, having been established only in 2008. The mandate of the IDD in terms of DRR covers the following areas:

- Policy options and strategies on multi-hazard DRR and mitigation
- Regional cooperation mechanisms for disaster risk management (DRM), making use of space-based and related technical support systems
- Multi-hazard assessment, preparedness, early warning and disaster response

Within these three areas, the work of the IDD is concentrated in these four fields:

1. Mitigation of typhoon and tropical cyclone impacts:
The IDD's activities in this field are linked to its involvement in the Typhoon Committee (TC) and the Panel on Tropical Cyclones (PTC). The TC is an inter-governmental body organized by the World Meteorological Organization (WMO) and ESCAP in 1968 to promote and coordinate measures to mitigate human and economic losses from typhoons in Asia and the Pacific. The PTC is another regional body established by the WMO and ESCAP to promote tropical cyclone warning systems in the Bay of Bengal and the Arabian Sea.
2. Use of information and communications technology (ICT) and space-based applications for DRM: Through its Regional Space Applications Programme for Sustainable Development (RESAP), IDD is focusing on establishing regional cooperative mechanisms to build national capacities on space-based tools for disaster risk management. In line with this, the IDD is supporting the enhancement of national governments' disaster communications capabilities, the development of regional cooperative mechanisms on flood and drought monitoring and early warning, and response to emergency requests for satellite observation in cooperation with Sentinel Asia.
3. Multi-disciplinary analysis of economic impacts of disasters: The IDD works with other ESCAP divisions and the UNISDR in developing the Asia Pacific Disaster Report. The first report was published in 2010 and looked into the socio-economic impact of disasters in the region, and recommended measures to reduce vulnerability to disasters in order to safeguard development gains. It highlighted the link between disaster losses and poverty, as well as how the vulnerability of the poor is impacted by various socio-economic and environmental factors.
4. Implementation of projects through the ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness: The Trust Fund was established in 2005 to support the development of tsunami early warning systems in the Indian Ocean and Southeast Asia. Its scope was expanded in 2010 to include a multi-hazard approach and take into account other aspects of disaster and climate preparedness. To date, seven major projects supported by the Fund have already been completed, with nine more currently ongoing.

Aside from the RESAP, ESCAP through the IDD is also involved in the following cooperation mechanisms:

- Inter-Agency Working Group on ICT
- UN Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER)
- UN Development Assistance Framework (UNDAF)
- UN Regular Programme of Technical Cooperation
- UNDP South-South Cooperation Programme
- MoUs with Japan Aerospace Exploration Agency and Microsoft

ESCAP also promotes DRR through the Asia-Pacific Gateway for Disaster Risk Reduction and Development. The Gateway is an online portal that can be utilized by DRR practitioners in the following ways:

- As an information sharing platform to promote multi-disciplinary DRR for socio-economic development;
- As a regional information resource on good practices, policy options, programs, and planning tools and approaches; and
- As a directory of experts, organizations, and networks that can assist national governments in mainstreaming DRR into key sectors.

Aside from the development and maintenance of the information portal, ESCAP has also supported efforts to develop free and open source software for disaster risk management, such as the SAHANA Disaster Management System originally created for use in Sri Lanka, but also adapted for DRM in Pakistan, the Philippines and Indonesia.

For the Asia Pacific Disaster Report (APDR), ESCAP developed a methodology for assessing risk patterns of commonly occurring minor disaster events, to better capture the impacts on development of disasters with return periods of 20 months or less (pp. 17-18, APDR). Providing information to policymakers on risk trends of events with such return periods is a more practical approach, as those timeframes fall well within the terms of elected officials, making it easier to frame them as immediate concerns compared to large-scale events which may happen in the distant future. This is something that may be of use to IFRC in its current work in rural areas and any future engagements in the urban sector.

ESCAP also utilizes the post-disaster damage, loss and needs assessment (DLNA) used by other UN agencies and the World Bank. This captures the impact of very large disasters. However, it can also be adapted for frequent, low-impact events. This is a tool that IFRC can consider adopting.

United Nations Development Programme (UNDP)

The key objectives for UNDP Bureau for Crisis Prevention and Recovery (BCPR) in the region are:

- Capacity development for risk management
- Mainstreaming of DRR into national plans, strategies and budgets
- Sustainable recovery efforts.

The strategies for achieving these objectives are:

- Through regional collaboration on policy issues, by linking national and local actors to international campaigns/global commitments, and by supporting actions on the ground through UNDP's country offices;
- Capacity development by identifying gaps and needs, cascading capacities to national and local actors, and developing tools and resources for reducing risk;
- Identifying and assessing vulnerabilities; and
- Fostering regional- and national-level partnerships.

The work of the Regional CPR Programme is based on identified country priorities and is carried out by the individual UNDP country offices in the region. Mr. Jegillos cites the presence of these country offices as UNDP's biggest advantage, as they can work with national and local actor directly.

Over the past four years (2008-2011), the Regional CPR Programme has focused on achieving two key outcomes: (1) Improved and effective capacity of governments and civil society organizations to prevent, manage and respond to conflict and natural disasters, and (2) Enhanced capacity for carrying out socio-economic activities for early and sustainable post-conflict/disaster early recovery.

Activities towards the achievement of the first outcome have focused on the development and introduction of gender-responsive methods and tools for conflict and natural disaster risk analysis in high risk countries; enhancement of national government capacities to integrate risk analysis and risk management in plans, strategies and budgets; and the establishment and operation of surge capacity system and training for rapid response and sustainable recovery. For the second outcome, activities in relation to the development and testing of a standardized project identification, appraisal and formulation system were conducted.

For countries in Southeast Asia, there has been a specific focus on supporting the different national governments to make their participation in the ASEAN Agreement on Disaster Management and Emergency Response.

In terms of developing DRR methodologies and tools, significant examples of Regional Programme activities are:

- Facilitating collaboration of experts to develop a standardized tsunami risk assessment. The resulting methodology has been used extensively in Indonesia and Sri Lanka.
- Establishment of Disaster Loss Databases

The databases allow governments to identify and track disaster risk trends, facilitating the formulation and implementation of effective DRM policies and programs, and providing a basis for further DRR investments. In situations where there are resource constraints, the information in the databases may also be substituted for formal risk assessments. The methodology for establishing the databases are also applicable to the district and community levels.

Tools such as the loss databases may be more functional than vulnerability and capacity assessments (VCA), as VCAs are usually static, capturing conditions during a specific time period, and may not necessarily be updated. They also do not account for the seasonality of certain types of disasters. The loss databases reveal patterns of extensive risk that may be precursors of catastrophic risk and highlight the need to also address extensive risk events, which are more numerous and frequent, rather than focusing primarily on possible intensive risk events.

A significant issue in the development of the databases is the use of official government statistics. Available data may be incomplete and of inconsistent quality, and may also be skewed due to political considerations. However, UNDP also exercises quality assurance on the data collected, validating the information before compiling these for use in the databases.

With regard to early recovery, the Regional Programme's focus is on the provision of technical policy advice. Areas of intervention in this field are the integration of DRR parameters in recovery efforts (building back better), economic recovery and livelihoods, establishment/upgrading of communications infrastructure, and ensuring that gender concerns are integrated in all aspects of recovery.

The Regional Programme is also involved in promoting pro-poor climate change policies, particularly in Bangladesh and Indonesia. Efforts in this area include generating data on poverty and poverty reduction to be able to link poverty and vulnerability, and the impact of disasters and poverty, to be able to advance social protection through national policies.

United Nations Human Settlements Programme (UN HABITAT)

UN-HABITAT Disaster Management programme helps governments and local authorities rebuild in countries recovering from war or natural disasters. UNHABITAT housing projects are not just about providing sustainable and safe housing and improving infrastructure and environment. They are also about improving livelihoods. UN-HABITAT partners with community-based organisations as their implementing partners and conducts vulnerability assessments at the community level. The implementing partners in turn train communities on how to self-organise and encourage their capabilities to use the available development funds for safe housing and improved living conditions.

UNHABITAT City-wide Pro-Ger Area Upgrading Strategy of Ulaanbaatar City: In recent years Mongolia has been experiencing fast-paced urbanization. 50% of the total population now lives in the capital city, Ulaanbaatar. UNHABITAT supports a city-wide pro-poor upgrading strategy in Ger areas where over 60 % of the Ulaanbaatar population lives (low density informal settlements, comprise primarily of felt-tent traditional houses built within individual fenced plots provided by the government).

The project aims to work with communities and help them upgrade their living conditions through projects that integrate disaster risk reduction and mitigation measures into activities, in cooperation with the local government. The communities are defined by grouping households living in similar conditions to form a coherent group. The assessment is done by the social mobilizers who are hired under the project. All the decisions are made by the community development councils, whose members are elected by the community.

Bibliography and select resources

- | | | |
|-------------------------------|-------|--|
| ADB | 2010 | <u>Key Indicators for Asia and the Pacific</u> , Manila, Philippines |
| ADPC | 2010 | <u>Urban Governance and Resilience Guide 1 & 2</u> , Bangkok, Thailand |
| ALNAP | 2009 | <u>Responding to urban disasters: learning from previous relief and recovery operations</u> , UK |
| | 2011 | <u>We're not in the field anymore: Adapting humanitarian efforts to an urban world</u> , Background Paper for 27th Annual Meeting, Chennai, India |
| ARC | 2008 | <u>Risk Based Capacity Building Guide</u> |
| | 2011 | <u>Guidebook on Community Engagement for Preparedness and Resilience</u> |
| Banerjee, A.V.;
Duflo, E.; | 2011 | <u>Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty</u> , USA |
| Crawford, C.A., | 2010 | <u>Can Humanitarian Responses in Urban Areas Reinforce Underlying Causes of Vulnerability?</u> Journal of Environmental Hazards |
| Carcella, N. <i>et al</i> | 2011 | <u>Addressing DRR through community-rooted interventions</u> , IIED, July |
| DEC | 2010 | <u>Urban disasters – lessons from Haiti Study of member agencies' responses to the earthquake in Port au Prince, Haiti</u> |
| EMI | 2009 | <u>State-of-the-Practice Report on Urban Disaster Risk Management</u> , Manila, Philippines |
| IFRC | 2007a | <u>How to Do a VCA Toolkit</u> , Geneva, Switzerland |
| | 2007b | <u>Disaster response and contingency planning guide</u> , Geneva, Switzerland |
| | 2008a | <u>The Red Cross Red Crescent and the Hyogo Framework for Action Focus on the Asia-Pacific region</u> , Malaysia |
| | 2008b | <u>The Red Cross Red Crescent and the Hyogo Framework for Action Focus on the Asia-Pacific region</u> , Malaysia |
| | 2009a | <u>Strategy 2020</u> , Geneva, Switzerland |
| | 2009b | <u>A framework for community safety and resilience in the face of disaster risk</u> , Geneva, Switzerland |
| | 2009c | <u>Implementation guide for community-based health and First Aid in action, volumes 1 and 2</u> , Geneva, Switzerland |
| | 2009d | <u>Community-Based Disaster Risk Reduction Curriculum for Field Practitioners</u> , Geneva, Switzerland |
| | 2009e | <u>RCRC Climate Guide</u> , the Netherlands, |
| | 2009f | <u>Assessing Quality and Cost Benefit: Philippines Case Study</u> , Malaysia |
| | 2010 | <u>World Disaster Report 2010: Focus on Urban Risk</u> , Geneva, Switzerland |
| | 2011a | <u>World Disaster Report 2011: Hunger</u> , Geneva, Switzerland |
| | 2011b | <u>Draft VCA Review Report</u> , Geneva, Switzerland |
| | 2011c | <u>Public awareness and public education for disaster risk reduction: a guide</u> , Geneva, Switzerland |
| | 2011d | <u>Assisting host families and communities after conflict and natural disaster: a step-by-step guide</u> , Geneva, Switzerland |
| | 2011e | <u>A contribution from the International Federation of Red Cross and Red Crescent Societies to the Conceptual Debate on Understanding Disaster Risk in</u> |

Urban Contexts, Americas Zone Office, DIPECHO

IFRC/ISDR		<u>Reference Framework</u> For The Participation of National Societies In Processes of National Platforms for Disaster Risk Reduction, Geneva.
IASC	2010	<u>Final strategy for meeting humanitarian challenges in urban areas</u> , Geneva.
ISET	2009	<u>Catalyzing Urban Climate Resilience</u> , Colorado, USA,
Kelman, I., et all	2011	<u>From Research to Practice (and vice versa) for post disaster Settlement and Shelter</u> , Journal of Environmental Hazards 10.
MRCS		<u>Mongolia CBSC Interim narrative report</u> , 2010
Partners for Resilience	2011	<u>Tools For Community Risk Assessments: How to integrate CCA and Ecosystem management and restoration</u> , Philippines
Pelling, Mark,	2003	<u>The Vulnerability of Cities: Natural Disaster and Social Resilience</u> , Earthscan, London,
Oxfam,	2011	<u>Urban governance and disaster risk reduction in the Caribbean: the experiences of Oxfam GB IIED</u> , July.
Resilience Alliance	2007	<u>A Resilience Alliance initiative for transitioning urban systems towards sustainable futures</u> .
Soja E.	2000	<u>Postmetropolis: critical studies of cities and regions</u> , Blackwell Publishers,
Swiss Re,	2007-9	<u>Natural catastrophes and man-made disasters in Sigma</u> , Zurich, Switzerland, Swiss Reinsurance Company, Ltd.
Saunders, D.,	2010	<u>Arrival City: how the largest migration in history is reshaping our world</u> , Pantheon Books, New York,
The World Bank	2009a	<u>Density and Disasters: Economics of Urban Hazard Risk</u> , Wash.DC, USA
	2009b	<u>World Development Report on Development and Climate Change</u>
	2010b	<u>Climate Risks and Adaptation in Asian Coastal Megacities</u>
	2010c	<u>The Economics of Adaptation to Climate Change: Synthesis Report</u>
	2010b	<u>Natural hazards – Unnatural disasters</u> .
	2010	<u>Development Actions and the Rising Incidence of Disasters</u> , Evaluation Brief, Independent Evaluation Group.
	2011	<u>Social Protection and Climate Resilience Report</u> , international workshop, Addis Ababa, March 14–17,
	2012a	<u>Cities and Flooding: A Guide to Integrated Urban Flood Risk Management</u>
	2012b	<u>A Workbook on Planning for Urban Resilience</u> .
Twig, John,	2010	<u>Characteristics of a disaster resilient community: A guidance note</u> , Version 2, Aon Benfield UCL Hazard Research Centre, London,
UNFPA	2007	<u>State of the World Population</u> ,
UNISDR	2010	<u>Local Governments and Disaster Risk Reduction: Good Practices and Lessons Learned</u> ,
		<u>Global Assessment Report: Revealing Risk, Redefining Development Making Cities Resilient</u> , www.unisdr.org/we/campaign/cities ,
	2012	<u>Towards a Post-2015 Framework for DRR</u> , Consultation Paper
UNESCAP	2009	<u>Statistical Yearbook for Asia and the Pacific</u> ,
UNHABITAT	2003	<u>The challenge of slums, global report on human settlements</u> , Nairobi, Kenya,

- 2010 The State of Asian Cities 2010/11, Japan
- 2011 Cities and climate change, global report on human settlements, Nairobi, Kenya,