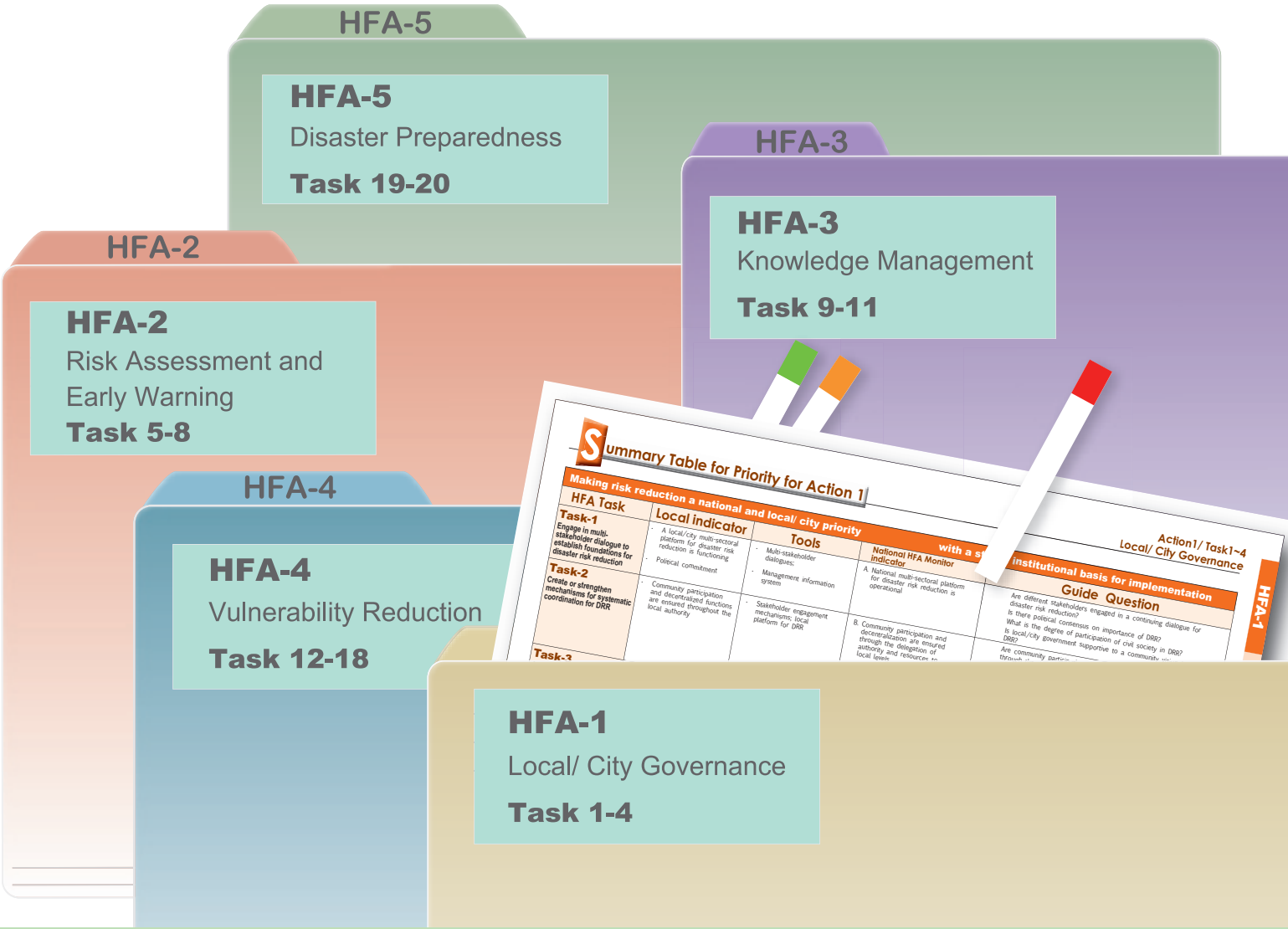
HFA



A Guide for Implementing the Hyogo Framework for Action by Local Stakeholders

International Strategy for Disaster Reduction

A Guide for Implementing the Hyogo Framework for Action by Local Stakeholders

Consultation Version

Asia Regional Task Force on
Urban Risk Reduction

United Nations International Strategy for
Disaster Reduction

Kyoto University
Graduate School of Global Environmental Studies

Acknowledgement

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Background

From late 1980s, a global movement concerned with a world safer from disasters was starting to develop. Development gains were being jeopardized by the increasing losses from severe disasters despite advances in science and technology. Thus, the United Nations declared the 1990's as the International Decade for Natural Disaster Reduction (IDNDR). IDNDR ended with much more work left undone, and a new thinking more attuned to changes in the world societies. A mid-term review of the IDNDR took place at the World Conference on Natural Disaster Reduction in Yokohama in 1994. The Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action ("Yokohama Strategy") provided landmark guidance on reducing disaster risk and impacts.

Reinforcing gains over the years and recognizing the needs of vulnerable communities, the United Nations and its partners once again assembled its member states, international organizations and various stakeholders for the World Conference on Disaster Reduction (WCDR) in Kobe City, Hyogo Prefecture in January 2005. The world was reeling off from the catastrophic impact of the Indian Ocean tsunami, which affected several countries on 24 December 2004. With renewed commitment to disaster risk reduction (DRR), the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters" was adopted by 168 states as the outcome at the WCDR (endorsed unanimously by all the UN Member States at the UN General Assembly in the same year). The International Strategy for Disaster Reduction system supported by the UNISDR secretariat is the vehicle for implement ting the HFA.

To help attain the expected outcome of the HFA "the substantial reduction of disaster losses, in lives as well as the social, economic and environmental assets of communities and countries", the HFA identifies five specific Priorities for Action as below:

HFA Priority for Action 1 (HFA-1): Making disaster risk reduction a priority

HFA Priority for Action 2 (HFA-2): Improving risk information and early warning

HFA Priority for Action 3 (HFA-3): Building a culture of safety and resilience

HFA Priority for Action 4 (HFA-4): Reducing the risks in key sectors

HFA Priority for Action 5 (HFA-5): Strengthen disaster preparedness for effective response

First and foremost, the HFA appeals to States, while acknowledging the enabling support of international and regional players to take action so that disaster losses, in terms of lives, social, economic and environmental assets, are substantially reduced by 2015. The HFA five priorities for action are not mutually exclusive, especially when one looks at the tasks needed to put them in place. In this regard, the HFA implementing guideline for national governments titled "Words Into Action: A Guide for Implementing the Hyogo Framework" was produced in 2007 by UNISDR together with partners.

While a certain advancement on national government HFA implementation have been made and reported, strong needs and demands for local governments to take comprehensive disaster risk reduction actions have been recognized, since it is at the local level that the impacts of a disaster are most immediately and intensely felt. Thus, it is desired that the HFA is locally implemented, adapted and owned by the citizens and officials of a constituted territory. In many ways, by doing so, a decentralized local/city (or urban) governance system for DRR is strengthened and stakeholder roles and responsibilities are identified and eventually carried out.

Each local/city differs from each other in terms of immediate and long-term need such that certain tasks need to be undertaken ahead of others. People and entities that have a stake at protecting themselves, and saving lives and property can contribute in both big and small ways. They not only need to have their voices heard, but they themselves can participate actively. The HFA needs to be implemented by local governments and made more of practical value to city governments. Thus, the idea of developing HFA implementation guideline for local stakeholders has emerged. The resulting knowledge product has been called "A Guide for implementing the Hyogo Framework for Action by local stakeholders"

"A Guide for implementing the Hyogo Framework for Action by local stakeholders" (referred hereon as the Guide) interprets "Words into Action" for players who need to integrate DRR principles into what they may have already been doing in the city or local governments. It customizes "Words into Action" to local/city government level. This Guide is not for contingency planning alone, as it covers a broad area which may be called development, or one might prefer to ascribe it to local/city governance. Should there be gaps, then stakeholders identify the next steps, explore partnerships and networks, and work together to make the communities safer. Thus, it can be seen that putting this Guide to use requires an arena or forum by which people of different backgrounds and affiliations can share experiences and uncertainties, exchange knowledge, and mutually learn from each other as well as from the successes of others. This forum is referred to as "platform."

The platform of multi-stakeholders will thus serve as an advocate of DRR in the city. It will facilitate a coordinated and participatory process that will engage in

problem solving based on sound analysis. It will bridge stakeholders so resources are complemented. It will align with the developing planning process so that DRR is accepted as a public value and thus mainstreamed in local/city plans and day-to-day operations of constituted authorities and businesses.

The UNISDR Hyogo Office and UNISDR Asia and Pacific Regional Office in Bangkok together with close partners took an initiative to develop the Asia Regional Task Force on Urban Risk Reduction (RTF-URR) as a thematic platform on urban risk reduction within the ISDR system in Asia to facilitate and accelerate efforts and actions for urban risk reduction in this context. The RTF-URR is one of the many thematic platforms which are essentially multi-stakeholder partnership mechanisms that facilitate organizations share common concern on the technical nature of themes which include El Niño, floods, water risks, wildfire, landslide, climate change, education, environment, disaster recovery, and capacity development.

The RTF-URR's goal is to enhance decisive actions to reduce risk and increase community resilience in the urban areas in the Asian region. Its objectives are: (1) to act as an advocacy vehicle to major urban policy bodies; (2) to provide a platform for collective information and knowledge development sharing; and (3) to facilitate interactions and cooperation among related organizations and stakeholders. This Guide is part of its work programme to develop operational knowledge products and activities to guide and improve preparedness and risk reduction at the level. The development of the Guide is also intended towards training and capacity building programmes for city authorities.

About this Guide and its Structure

This Guide is for local/city government officials and staff, as well communities and institutions that interact on a daily basis and are geographically tied by administrative boundaries or natural physical forms such as a watershed. Staff and officials of local government units or local authorities other than the city will also benefit from this guide.

The Guide consists of introductory part and 5 chapters. The introduction provides the purpose of this guideline and pointers to get started when organizing to accomplish the disaster risk reduction tasks in the city. Following chapters 1 to 5 consists of each of the five HFA Priorities for Action as areas where improvements are needed.

Priority for Action 1 (HFA-1): Ensure that disaster risk reduction is a national and local/city priority with a strong institutional basis for implementation (Making disaster reduction a priority; governance)

Priority for Action 2 (HFA-2): Identify, assess and monitor disaster risks and enhance early warning (Improving risk information and early warning; risk assessment and early warning)

Priority for Action 3 (HFA-3): Use knowledge, innovation and education to build a culture of safety and resilience at all levels (Building a culture of safety and resilience; knowledge management)

Priority for Action 4 (HFA-4): Reduce the underlying risk factors (Reducing the risks in key sectors; vulnerability reduction)

Priority for Action 5 (HFA-5): Strengthen disaster preparedness for effective response at all levels (Strengthening preparedness for response; disaster preparedness).

All of the above five chapters have 6 items according to each HFA Priority for Action:

1) Brief introduction
2) Note on the key stakeholders
3) Indicators for monitoring progress
4) Summary table of tasks with guide questions
5) Descriptions of useful tools (all the tools mentioned in this Guide are listed on the page XX) needed to implement tasks and to improve the performance required in the priority area, and
6) Some concrete examples to illustrate tasks as practiced are introduced in boxes. A few tools and methodologies are also selectively discussed to provide insights on the type of activities that may be required of partners

At the start of each chapter, the reader is given a list of relevant stakeholders. The reader is encouraged to recall the particular local actors relevant to his/her situation. In so doing, the reader is sensitized to where strengths and weaknesses lie. The reader is then guided to assess the current status of his/her organization or community through the indicators of progress. A summary table then identifies the tools in order to perform local/city-level disaster risk reduction tasks. Cases that illustrate the learning points and how to go about making meaningful changes are presented. The following chapters on Priorities for Action and their main themes are presented in the following order.
The summary table in each chapter has a two-fold purpose:

- As an instrument to relate the city-level actions to the national-level tasks according to "Words into Action" and additionally, to related city-level indicators to the HFA Monitor which is intended originally for national application; and
- As a discussion guide when assessing the status of the local/city government and/or community in terms of the five HFA Priorities for Action through guide questions; while these are not exhaustive, they also are useful in triggering group discussion or individual reflection by the Guide's user.

20 Tasks for Local Implementation

In the "Words into Action", there are total 22 tasks are specified to implement HFA Priority for Action. According to the "Words into Action," each task is a primary area of effort where achievement can be rated. After reviewing the proposed specific 22 tasks of "Words into Action" from the local/city level perspective, the relevant tasks are slightly modified and identified as 20 tasks in this Guide for local government perspectives.

Here are some pointers about the specific tasks according to "Words into Action":

- "Each of the tasks can be approached as a single independent activity, typically involving a series of steps such as planning, consultation and reporting.
- "Because different countries reflect different stages of disaster risk reduction and implementation of the HFA, the Guide's tasks are presented in semi-independent form, so that users can choose and pursue the particular tasks that are most appropriate for their own circumstances and priorities."
- "Although most of the tasks do not need to be conducted in a sequential order, it is important to first organize the implementation of the tasks of Priority 1, since this provides the foundations for other tasks, by securing political and institutional backing from government and leaders."

Government's interventions - projects, programmes and plans - form part of a development strategy. Sustainable development and disaster risk reduction are consistent with each other. As paradigm or strategy, both are people-centred, thus encourage citizen participation. It is paramount for people to understand what government does, and see what they might contribute to these interventions, or better still, be part of recognizing how to resolve issues as these are part of the problem recognition and acceptance, and the visioning for the city. Some part of DRR tasks may be accomplished through these interventions, while others need to be embedded within the government set-up and the manner in which it conducts its business.

The tasks listed in Box 0.1 are suggested to be undertaken by relevant stakeholders jointly whenever appropriate. In Chapters 1 to 5, these tasks are listed in the summary tables for each chapter.

Box 0.1 Local/ City-Level Disaster Risk Reduction Tasks

Local/city governance (HFA Priority 1 related)

Task 1. Engage in multi-stakeholder dialogue to establish foundations for disaster risk reduction.
Task 2. Create or strengthen mechanisms for systematic coordination for DRR.
Task 3.Assess and develop the institutional basis for disaster risk reduction.
Task 4.Prioritize disaster risk reduction and allocate appropriate resources.

Risk assessment and early warning (HFA Priory 2 related)

Task 5. Establish an initiative for community risk assessment to combine with country assessments.
Task 6. Review the availability of risk-related information and the capacities for data collection and use.
Task 7. Assess capacities and strengthen early warning systems
Task 8. Develop communication and dissemination mechanisms for disaster risk information and early warning.

Knowledge management (HFA Priority 3 related)

Task 9. Raise awareness of disaster risk reduction and develop education programme on DRR in schools and local communities
Task 10. Develop or utilize DRR training for key sectors based on identified priorities
Task 11. Enhance the compilation, dissemination and use of disaster risk reduction information.

Vulnerability reduction (HFA Priority 4 related)

Task 12. Environment: Incorporate DRR in environmental management.
Task 13. Social needs: Establish mechanisms for increasing resilience of the poor and the most vulnerable.
Task 14. Physical planning: Establish measures to incorporate disaster risk reduction in urban and land-use planning.
Task 15. Structure: Strengthen mechanisms for improved building safety and protection of critical facilities.
Task 16. Economic development: Stimulate DRR activities in production and service sectors.
Task 17. Financial/economic instruments: Create opportunities for private sector involvement in DRR.
Task 18. Emergency and public safety; disaster recovery: Develop a recovery planning process that incorporates DRR.

Disaster preparedness (HFA Priority 5 related)

Task 19. Review disaster preparedness capacities and mechanisms, and develop a common understanding
Task 20. Strengthen planning and programming for disaster preparedness.

Tools

Breaking down a problem into its components often helps to simplify and understand the situation. Also, a specific solution may be found appropriate to each component, and a tool can be applied to reach that solution. Tools are best handled by or done with the help of trained professionals from different fields of specialization. Tools will help to accomplish the tasks required. In the previous example, an early warning system specialist together with the weather forecaster should be able assist in improving the early warning system.

Indicators and the HFA Strategic Goals

Assessment must be built into all levels of the programme and project activities by participants - facilitators, development coordinators, administrators, and planners. Reporting back the results and drawing feedback also helps sustain interest among the stakeholders. City government must acknowledge the achievement of participating stakeholders to leave them with a positive experience of group work.

The tasks are primary areas where achievements in disaster risk reduction can be beneficial to communities. "Words into Action" therefore introduces national indicators that allow measurement of achievement; these are called "indicators of progress." These indicators contribute toward the attainment of the three Strategic Goals of HFA:

1. The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction;

2. The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards; and,

3. The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

It is the interest of this Guide to contribute to the effort to measures progress in disaster risk reduction at local/city level. It therefore seeks to align local/city-level indicators consistent with the Strategic Goals, the five Priorities for Action, and relevant tasks. Local/city government may select the most relevant indicators to its particular case. In this Guide, local/city-level indicators[1] which support the national indicators of progress are suggested as well.

The user is encouraged to make use of resources like publications and websites. An annotated section on Sources of Sound Practices is found after the Bibliography.

1 Work by John Twigg and the Global Network for Disaster Reduction provided noteworthy contribution to this effort.

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Acronyms and Abbreviations

ADPC	Asian Disaster Preparedness Center
ADRC	Asian Disaster Reduction Center
AIS	Association of Earthquake Engineering
APSEMO	Albay Province Safety and Emergency Office
ASEP	Association of Structural Engineers of the Philippines
AS/NZ	Australia/New Zealand
AUDMP	Asian Urban Disaster Mitigation Programme
BCP	Business continuity plan
CADRI	Capacity for Disaster Reduction Initiative
CBDP	Community-based disaster preparedness
CBO	Community-based organization
CCA	Common Country Assessment
CRED	Centre for Research on Epidemiology of Disaster
CVCA	Community vulnerability and capacity assessment
DKKV	German Committee for Disaster Reduction
DM	Disaster management
DPAE	Direction for the Prevention and Attention of Emergencies
DRM	Disaster risk management
DRMMP	Disaster risk management master plan
DRR	Disaster risk reduction
EIA	Environmental impact assessment
EWS	Early warning system
GDP	Gross domestic product
GFDRR	Global Forum for Disaster Risk Reduction
GHG	Greenhouse gases
GIS	Geographic information system
HFA	Hyogo Framework for Action
IASC	Inter-Agency Standing Committee
ICLEI	International Council for Local Environmental Initiatives
IEC	Information, education and communication
LAP-DRR	Local Action Plan for Disaster Risk Reduction
MDG	Millennium Development Goal
MMDA	Metropolitan Manila Development Authority
NAP	National Action Plan
NDMO	National Disaster Management Organization
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration
NSET	National Society of Earthquake Technology
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PDCC	Provincial disaster coordinating council
PICE	Philippine Institute of Civil Engineers
SAR	Search and rescue
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UNDAC	United Nations Disaster Assessment and Coordination
UNDAF	United Nations Development Assistance Framework
UN-HABITAT	United Nations Centre for Human Settlements
UNISDR	United Nations/ International Strategy for Disaster Reduction
UNDP	United Nations Development Programme
VCA	Vulnerability and capacity assessment
VDC	Village development committee
WWF	Working Women's Forum

Read about the tools you need for effective local/city disaster risk reduction...

Introduction

Natural hazards occur daily in various parts of the world. Even in this age of information and satellites, it is likely that reports on many of these occurrences do not reach people as news. Also, not all natural hazards need to be disasters. A disaster happens when weather disturbance or earthshaking seriously disrupts the functioning of a community or society, thus causing widespread human, material, socio-economic, environmental, and information losses. If the ability of the affected community or society to cope with the hazard using its own resources is exceeded, then the event is referred to as a disaster. The 2004 definition from the International Strategy for Disaster Reduction also stresses that:

"A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity to reduce the potential negative consequence of risk."

From this description, we note that disaster is a combination of factors or conditions, some of which are controllable. Some however are not completely controllable but can be alleviated. Communities face different natural hazards mainly due to location. Some places are more at risk or exposed to risk to certain hazards. Risk increases when more elements such as population, buildings and infrastructure are exposed to the hazard. The vulnerability of a place increases as the built environment develops and as resources are exploited for economic gain. These man-induced actions thus further expose some people to certain risks. Had some measures been made to prevent or mitigate these risks, then a town or city could be safer.

Much can be done to save a city, town, village or community from disaster losses, as shown by outstanding examples from all over the world. Since government has the responsibility to keep its citizens safe, local government, the administrative level closest to the people, is given authority to orchestrate meaningful actions and resources to ensure that disaster losses are minimized. By working together with stakeholders, city officials and civil servants can ensure that the city can resume its economic and political functions, while society and culture continues to thrive after a disaster.

Purpose of the Guide

Following this HFA spirit, this Guide is intended to support local/city governments reduce losses in cities, districts, and other sub-national units of administration and ultimately to build community resilience.
This Guide is for city government staff and officials, as well communities and institutions that interact on a daily basis and are geographically tied by administrative boundaries or natural physical forms such as a watershed, or interlinked by social and economic activities.

With urbanization, many settlements have become more complex in terms of physical attributes like transport routes, social fabric, demographics, trade and economic activities. The population density (which mainly defines whether an area is urban or rural) in urban areas have become even higher. One of the largest cities in the world, Dhaka in Bangladesh has a population density of 43,752 people per sq km^2 , the highest in the world. Cities as centres of socio-economic, education and cultural activity also vary in size, with megacities commonly defined as cities having population of 10 million and above. Megacities appear as a populated space with several nested authorities governing it such as the Tokyo Metropolitan Government that consists of several wards and towns.

Why Local or City Level?

It is at the local level that the impacts of a disaster are most immediately and intensely felt. Thus, it is desired that ultimately, the HFA is locally implemented, adapted and owned by the citizens and officials of a constituted territory. In many ways, by doing so, a decentralized local/city (or urban) governance system for DRR is strengthened and stakeholder roles and responsibilities are identified and eventually carried out.

In this guide, "local" refers to a sub-national unit of administration. The city is a sub-national unit which has more urban characteristics than rural. Thus, a city has more urban population than rural population. However, urban status depends from one country to another. The United Nations defines urban population as the "de facto population living in areas classified as urban according to the criteria used by each area or country.[3]" The same source defines city proper as "a locality defined according

2 Bangladesh Bureau of Statistics, Statistical Pocket Book, 2007, 2007 Population Estimate.
3 United Nations, 2007. World Urbanization Trends 2007 (http://esa.un.org/unup/index.asp?panel=6).

to legal/political boundaries and an administratively recognized urban status that is usually characterized by some form of local government." The capital of a country is usually a city - the capital city. Thus, the capital city is a "highly urbanized area" which typically is densely populated; it has modern conveniences and connected well with other parts of the country through transport and communication. It is the centre of economic, social, cultural and political activities. Some contiguous areas are interrelated and interconnected in various spheres of citizens' lives, and although these areas may belong to different local authorities; the term "urban agglomeration" has been applied to such a territory by the United Nations. Cities and contiguous territory with 10 million people are called megacities. The reality presented by urban agglomerations and megacities, in terms of the implication on dealing with disasters is a stark reminder that complex situations need to be prepared for. Megacities have been described with the following features: big size, crowdedness, duality (of formal and informal settlements), complexity, nested units, and bureaucracy. In the case of megacities such as Metropolitan Tokyo, a complex system of nested authorities exists. "Tokyo-to," as Tokyo is referred to administratively in Japanese, is one of the 47 prefectures of Japan. Tokyo depends on a Tokyo Metropolitan Government (TMG), that has urban functions including waterworks, sewerage, and fire-fighting in 23 wards that are governed as cities. Tokyo encompasses 26 more cities, five towns, and eight villages, each of which has a local government.

The term "local/city" will be often repeated in this guide in order to stress the idea that a city is a local administrative unit of the government, and it is a local government unit fundamentally. Emergencies that extend to interconnected areas need a systematic approach and strong communication among key stakeholders, especially among the chief local executives (mayors and governors) of the concomitant local authorities. The basics are dealt with in this guide.

An ICLEI report[4] noted that local government representatives frequently stated that many of the DRM instruments currently available do not sufficiently address the specific institutional needs of local governments. Among the many issues raised in this context were:

- Difficulties obtaining political commitment within local governments which may threaten the sustainability of disaster risk management (DRM) efforts,
- The often limited availability of resources (time, human, and financial) which inhibits risk analysis and implementation,
- Organizational structures frequently appear ill-prepared for pursuing a more systematic disaster risk management (DRM) process, including prevailing uncertainties about which department(s) should be entrusted with the various levels or types of responsibility involved.

A constant challenge in the developing world is sustaining excellent strategies and programmes. Often, strategies and programmes proven to work are threatened (and eventually, stopped) by a change in city government leadership. Just like other functions in government, disaster risk reduction requires professionalism that goes beyond political ends. A disaster or emergency management professional is a rarity in local/city governments especially in developing countries, unlike a few industrialized countries.

4 ICLEI, 2007. Final Report to the German Technical Cooperation (GTZ) – Assessment of Disaster Risk Management (DRM) Guidelines and Tools, Toronto.

Getting Started

The HFA Priorities for Action for local/city government level application can be accomplished through 20 suggested tasks (Box 0.1). ("Words into Action" has a set of 22 national-level tasks and they are slightly revised from local/city level perspectives.)

Before enumerating these tasks, it is worthwhile getting a few key pointers so that efforts and their impacts can be sustained with reasonable constancy. It shall be noted that a culture of prevention, safety and resilience is not obtained overnight but is built through a process of learning.

The following four pointers emphasize the management of risks. The process of managing risks is an incremental one. The risk management process according the Australia/New Zealand standard[5] is such a process (see Appendix B). Throughout this process, on-going and scheduled activities are not to be jeopardized but instead enhanced by input from it. Input is enhanced through consultation with various stakeholders and monitoring with the use of appropriate indicators.

Here are pointers to remember when organizing in order to accomplish the tasks (Box 0.1).

Pointer 1.
Put Emphasis on the Process

The process needs to be inclusive and participatory. Stakeholders include public entities, local, regional and national government offices, private sector groups, industry and commerce, civil society, NGOs and associations, specialized interest groups. Key stakeholders should be identified and engaged in multi-stakeholder workshops and other consultations so that their inputs are incorporated into the action plan for a community, village, district, town or city. The process is designed in such a way that information and feedback are constantly generated and integrated into outputs and products. The stakeholders and their interest can be identified by meeting various groups. Local champions for disaster risk reduction are indispensable for sustaining efforts, and

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Stakeholders representing a wide spectrum of interests and concerns are brought together in an initial dialogue which is projected to continue the feedback process of communication. The professionals may also come from NGOs and civil society groups which interact with citizens and communities, and adapted themselves well to collaborative work in the field. Look for strengths in terms of facilitation skills and deep understanding of broad-based disaster risk issues particularly at the community level. Ask those who are willing and able to work with you to prepare a profile of the city/town (see Pointer 2).

The goal is to create a space for discussion and thus, develop a vision and reach consensus on how this vision might be achieved. The initial dialogue is therefore designed as a workshop, which can be the beginning of a series of activities including subsequent workshops that will serve as a disaster risk reduction forum or arena. The dialogue shall have brought to attention the stakeholders' resources, strengths and opportunities that can be made use of. It is highly recommended that national disaster risk management offices and scientific agencies are represented in the dialogue to provide clarifications regarding legal/administrative and scientific/technical matters, respectively.

Pointer 2.
Know Where You Are

This is all about establishing the context and baseline characteristics of the local situation. Facts need to be established so that benchmarking can be done against models or sound practices. A town/city profile (see template in Appendix A) can provide a place to start in terms of documenting the state of disaster risk reduction in the locality. This includes: the political context that involves competing interests and values held by different stakeholders; a common understanding of the laws and

5 Standards Australia, Risk Management Standard (AS/NZ 4360:1999 rev. 2004), 2004.

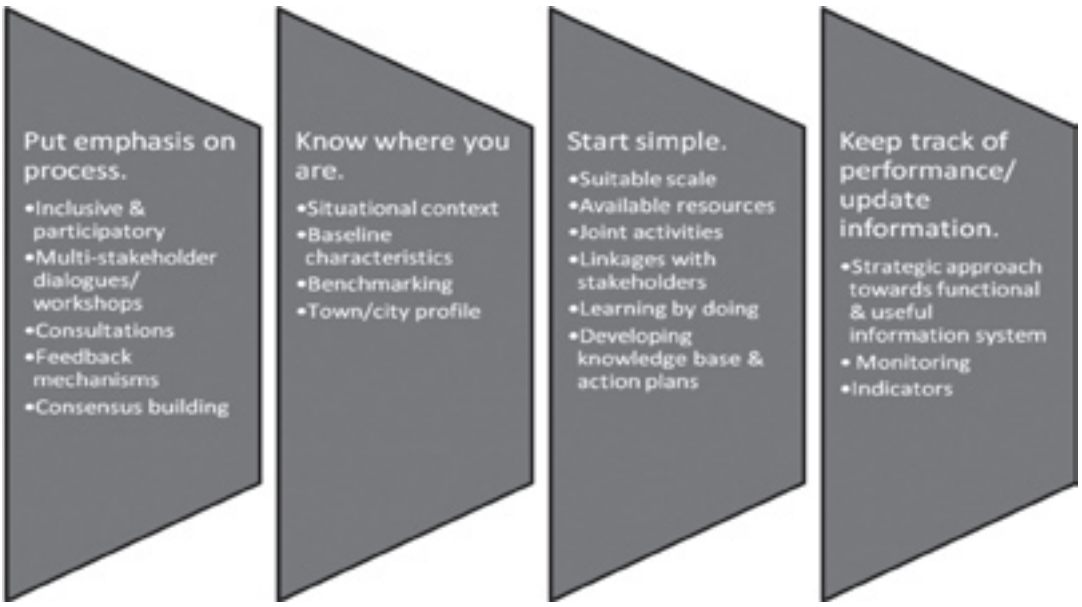

Figure 0.1. Pointers on undertaking the local/city disaster risk reduction tasks

regulations, as well as economic and social pressures, and a common appreciation of relative risk. Each locality may have context-specific issues related to various aspects that include gender, culture, indigenous practices, and local knowledge, among other things. The profile serves as documentation of the situation and context of the city/ town; subsequently, it needs to be updated regularly to provide a comprehensive overview or state of disaster risk reduction in the city/town. The profile shall help provide a common understanding of risk-related problems to the population.

The work group disseminates the profile to citizens, and presents it at the multi-stakeholder dialogue of the city/town. Several methods are useful in generating a profile that serves the purpose. Secondary data are obtained from past and current studies on related issues. Interviews with key informants who have managed similar issues before or studied them intensively can shed light on. Lessons from specific hazard events, either recent or those particularly leaving significant disaster impact are noted down through site reconnaissance or on-site observation and interviews of persons affected by previous disasters as well.

Pointer 3. Start Simple

Undertake actions that allow you to use resources which are readily available. By doing so, real impacts may be achieved and felt by citizens. It is also through experiential learning and 'learning by doing' that allows people to gain confidence before undertaking bigger tasks.

While pursuing the idea of what stakeholders can do together, it makes sense to start simple. The joint action must be done at a scale that will facilitate finding out typical issues that arise from collaboration, and whether an enabling environment exists or not. Undertaking joint actions at a suitable scale is a must. The degree of difficulty and level of resource requirements also depend on the size of a geographic or planning area. Thus, for example, joint activities can start in a few priority communities. This also brings the reality that it is necessary to start actions that are readily do-able and of immediate importance. This means that lessons that can be learned without being doing an expensive exercise. Thus, drills, town watching, and networking are recommended. All activities reinforce linkages among stakeholders and thus help build networks. Taking each of these separately from other disaster risk reduction activities is a lost opportunity. Relying on just one may often detract the focus from an integrated perspective to one of a single disaster phase such as response, in the case of drills.

(1) Drills (also sometimes called simulation drills and runs; see Chapter 5 on HFA5) heighten awareness among community members and upgrade disaster response capability of response teams or brigades. When practiced with community members, the emergency drill involves the whole range of stakeholders in order to get the maximum benefit from a one-shot deal event or intervention. While practicing with established disaster/emergency brigades are laudable, it must be recognized that drills focus particularly on preparedness for response and rescue. Ideally, the risks and vulnerabilities of the area have been mapped, and a disaster scenario has been precisely drawn up. Evacuation routes will have been determined based on the impacts of a disaster scenario. Therefore, a community shall benefit if some parameters are already known through a survey. An option to prepare a community better is through hazard mapping and risk assessment, which is done in town watching.

(2) Town watching (or community watching; see Chapter 2) combines urban planning and risk assessment techniques in order to generate community-level information and plans. It serves as a powerful tool to increase awareness among community members. It also provides a bridge linking city government and community, and a learning

tool for both local/city government officers and citizens. When conducted well, valuable lessons towards effective collaboration for disaster planning, emergency procedures, early warning, vulnerability reduction, zoning, and recovery can be learned. The essence of engaging stakeholders through town watching is not merely to assess and understand risks, but to explore opportunities to build on existing knowledge about risks and experience of hazards and disasters.

(3) Networking gathers stakeholders together as community and local resources. An immediate output from a network is a directory. The directory can potentially provide the means to match supply with demand, the market with providers of products and services, and in the context of emergency preparedness, the initial makings of a preparedness plan.

Working together through the three activities given above should be seen as integral part of developing the knowledge base and action plans. Experience and information gained from drills, town watching and networking form a major contribution to field- and city-level disaster risk reduction. One or a combination of the above can be undertaken by relevant sub-teams that have been formed during the workshop. It shall be the task of the work group or sub-teams to ensure that resource needs are met.

Pointer 4. Find Ways to Keep Track of Your Actions and Performance, and Keep Information Updated

After knowing 'where the city is standing' in terms of DRR through the profile, strive to monitor how your actions are actually helping your city and its citizens towards safety and resilience. Indicators help you keep track of how you have performed over a period of time. Indicators contribute to ensuring that objectives and key results areas are being achieved.

To ensure follow through, city government, through the work group, initiates activities to sharpen understanding about hazards, risks and vulnerabilities faced by residents, businesses, and government. Often, the information gap is recognized early and resolutions are quickly drawn up. However, relevant information for disaster risk reduction are held by a variety of entities with different policies and attitudes about information sharing; this entails high transaction costs, requiring time, money and staff resources. Intuitively, a strategic approach must be taken in order that a reasonably functional and useful information system is put together.

The city government continues the process of multi-stakeholder dialogue through regularly-held workshops intended to gauge the city's DRR performance. Participants can sharpen their understanding of current gaps and future prospects. SWOT (S-Strengths, W-Weaknesses, O-Opportunities, T-Threats) analysis is a potential strategic planning tool to identify internal strengths and weaknesses with external opportunities and threats.

Assessment, Measurement and Monitoring

A report back by a work group is necessary wherein achievements are noted. It is also necessary to learn from failures and therefore documentation of processes is a must. The means described all lead to further action is about concretely taking action to mitigate and prepare for disaster based on the experiences above. A post-drill assessment may yield steps needed to improve in areas where performance was lacking. Output from town watching includes a risk map and a set of countermeasures to mitigate and prepare for disasters. Networking organizes stakeholders so that each one is alerted on their roles, which needs to be clarified through contingency planning and other disaster preparedness mechanisms. All of these actions can be put under one plan, which the whole city acknowledges its ownership.

Measuring mainstreaming. A tool to help development organizations assess, measure and monitor their progress with mainstreaming has been developed by Tearfund, a non-governmental organization. The tool's performance indicators are categorized according to six areas: policy, strategy, geographical planning, project cycle management, external relations, and institutional capacity. Carrying out such an assessment helps in finding out the level of achievement in a city based on suggested parameters.

The Tearfund framework has been applied in an effort to see how the officers of 13 of the 17 municipalities and cities that comprise Metro Manila assess their own level of achievement in mainstreaming[6]. The report on the workshop concludes that the results of this institutional assessment are useful as indicative benchmark or point of reference for the overall assessment of Metro Manila's state of DRR mainstreaming. The results can be referred to as initial baseline self-assessment. Should such assessment be available at the start of the process, the levels of attainment are useful for inclusion in the city/town profile. The parameters may be treated as performance targets and priority issues that need to be addressed by local/city authorities. Mainstreaming indicators are also useful for monitoring and review.

In order to improve the general state of disaster risk reduction, the progress of local/city government and

communities in making communities more disaster resilient needs to be monitored and reviewed (evaluated) early in the process using measurable indicators.

Using indicators under the five HFA Priorities for Actions, local/city government can be guided in its design of policies and projects. A duly designated officer evaluates the effectiveness of specific disaster risk reduction activities. These periodically measurable indicators shall be contained in a disaster information system. It is essential that this disaster information system is put in place in close cooperation with partners who possess information for various uses previous to, during and after a disaster event.

The HFA indicators systematically ensure that right data are collected as part of all activities, and that management's questions are addressed. Monitoring at the local/city level enhances the collection of results for the national disaster risk reduction picture – the HFA Monitor. The initial attempt will provide baseline information and facilitate benchmarking. Each indicator is assessed in terms for attainment levels 1 to 5, level 5 being the highest attainable score. Each level has a descriptor to particularly examine performance[7].

The work group prepares the conduct of overall evaluation. It finds the appropriate indicators and puts together the corresponding questions. Other assessment tools may also be found relevant for monitoring and reviewing parameter pertinent to the other steps. Thus, vulnerability and capacity assessment (VCA) is essential to assess risks faced by communities and the capacities available to deal with those risks (please see the details in Chapter 2). It is useful for government and non-governmental actors, aid organizations, national and international stakeholders. The VCA process can play a big role in "building a constituency of communities, aid organizations and local authorities, aware both of their needs and capacities.[8]" What seems overwhelming for a single agency or entity can be surmounted by this constituency, likely participants in the city's DRR platform.

Measuring disaster risk management (DRM) performance for megacities. Efforts at measuring DRM for cities are in progress. One attempt is the Megacities Indicators System (MIS) or MEGA-Index, which is described as a tool to communicate risk and promote a strategy of disaster risk reduction and disaster management" by one of its exponent, the EMI[9]. The tool is based on the methodology developed by the Institute of Environmental Studies (IDEA) of the National University of Colombia-Manizales with the Inter-American Development Bank through the Indicators Program[10]. MEGA-Index, which focuses on urban seismic risk, is used to benchmark and measure disaster risk management performance of megacities. Results from pilot test in three component cities of the 17 Metro Manila local government units demonstrate a clear mutual dependency between science and public administrators. The composite index for DRM has four policy criteria: risk identification (based on individual perception, social representation, and objective assessment of risk), risk reduction (prevention and mitigation), disaster management (response and recovery), and risk transfer (related to institutionalization and risk transfer). The multidisciplinary nature of seismic risk evaluation is evidenced by taking into account physical damage (such as the number and type of casualties, and economic losses), conditions related to 'social fragility' (or vulnerability) and lack of resilience. The methodology is being applied to other EMI megacities, particularly Istanbul in Turkey.

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6 Reyes, M.L., 2006. Mainstreaming Disaster Risk Reduction through Land Use Planning and Enhancing Risk Management Practices, Earthquakes and Megacities Initiative, Quezon City.

7 National progress reports on the implementation of the HFA are posted under "Policy, Plans and Statements" in http://www.preventionweb.net/english/countries.

8 Walter, J., 2002 (ed.). World Disasters Report 2002: Focus on Reducing Risk, International Federation of Red Cross and Red Crescent Societies, Geneva, p.145-146.

9 Carreño, M. L., O. D. Cardona, and A.H. Barbat, Urban Seismic Risk Index: A Holistic Approach for Seismic Risk Evaluation; Carreño, M. L., O. D. Cardona, and A.H. Barbat, Disaster Risk Management Index: An Assessment of Disaster Risk Management Effectiveness, both in EMI, Mainstreaming Disaster Risk Reduction through Land Use Planning and Enhancing Risk Management Practices, Manila, 2006(See EMI website: http://www.emi-megacities.org).

10 The methodology has been tested at the national level in 13 countries in the Americas (http://idea.unalmzl.edu.co). Urban applications include Bogota in Colombia, Barcelona in Spain and Metro Manila in the Philippines.

HFA-1

Making Disaster Risk Reduction a Priority

Local/ City Disaster Governance and National-Local Relations

Introduction

Local/city governments can undertake a number of tasks to implement HFA 1. This chapter recommends the following tasks:

Task 1. Engage in multi-stakeholder dialogue to establish foundations for disaster risk reduction.

Task 2. Create or strengthen mechanisms for systematic coordination for DRR.

Task 3.Assess and develop the institutional basis for disaster risk reduction.

Task 4.Prioritize disaster risk reduction and allocate appropriate resources.

This Priority for Action lays the foundation to the whole process of disaster risk reduction in a country as well as cities and towns. This Priority for Action is closely related to "Governance." It measures the degree to which disaster risk reduction (DRR) is imbedded within the day-to-day business of government. Making DRR as priority in government institutions may be translated in terms of how well or how much various government institutions relevant to DRR work, citizens, businesses, organized groups (non-governmental organizations, civil society organizations, community organizations) engage in DRR activities. As national government commits to DRR through legislation and day-to-day practices, DRR support systems can be incorporated into community life and thus empowering the residents.

In one sense, without national government's commitment to DRR in actual practice, society as a whole may lack direction in pursuing the goal of resilience. Local/city governments and communities find it difficult to work out measures on their own. What they need is an enabling environment which supports local efforts. Local/city governments also look for guidance and technical advice, which an enabling environment is able to provide. This does not mean though that local/city governments and communities are helpless. As some actual experiences have shown, much can be done by local/city governments and communities especially when faced with the extreme necessity to respond actively and creatively to demands brought about by a calamity.

However, when no actual threat of disaster is felt, local authorities and communities lethargic with the tendency to be unprepared for disasters. Being unprepared can mean several lives lost, damage to crops and property. Being unprepared can be caused by a multitude of reasons. Often though, the press blames authorities for "lack of a disaster response system," "lack of coordination" and others which may include observations about people being unprepared or unwilling to vacate their homes despite warnings. Collapsed buildings and houses are described as "flimsy" or "substandard" or built in vulnerable locations such as steep slopes, river banks and coastal areas. The implication for all concerned is to turn the negative to positive. Proactive measures to build capacity include educating homeowners and homebuilders in addition to strictly implementing the building code.

As experience tells us, turning something negative into positive does not happen overnight. Disaster preparedness, for example, entails a large amount of work required from government and people, and international assistance organizations like Red Cross and donors[11]. Governments often realize the inadequacy of the legal framework relevant to disasters after much suffering and damage from a major disaster (Box 1.1).

In spite of national laws, a major threat in protecting people from disasters and providing safety to constituencies is a half-hearted and inconsistent political commitment within the local/city government.

A local/city government official may fail to understand why and how disaster risk management (DRM) could be beneficial to his/her town or city. The degree of understanding and actions taken by city government as a consequence will determine the success of DRM. Understanding the benefits of a DRM programme that works also determines how much DRR is prioritized among the many matters a city government has to deal with.

Successful DRM achieves great political benefits for local politicians resulting from building safer and more resilient communities[12]. If local/city governments had been under-represented and therefore not sufficiently engaged in international deliberations on DRM, they should become active participants in national multi-stakeholder dialogues and fora.

Nonetheless, local/city government representatives are potential contributors to national and international multi-stakeholder platforms. Feedback and experience from the field only confirms appropriate practices and negates those that do not work. The faster and more often these experiences are heard, the better it is for all those concerned to learn from mistakes and make advances in knowledge and practice. They are not solely responsible for making town and cities safer. They can and must harness the expertise and knowhow of other stakeholders who are equally exposed to the same risks.

11 According to the UN, the components of disaster preparedness are: vulnerability assessment, planning as an inclusive process, institutional framework, information systems, resource base, warning systems, response mechanisms, public education (communication) and training, and rehearsals.

12 ICLEI, Final Report to the German Technical Cooperation (GTZ) – Assessment of Disaster Risk Management (DRM) Guidelines and Tools, Toronto, 2007.

Stakeholders

As a governance issue, DRR needs the engagement of stakeholders in consensus building and planning processes (which include coordination mechanisms and participation). Having a policy and legal framework is one thing, but really institutionalizing DRR in practice is a challenge. Institutionalizing DRR includes mainstreaming, which can be ensured when the DRR activities are incorporated into the government budget.

This section on "Governance" is addressed to the following major stakeholders.

Coordination mechanisms/participatory process:

- Government
- Civil society and organizations with a role in DRR
- Media and academic institutions
- Technical and scientific institutions or services (early warning, risk identification, hazards monitoring, preparedness)

DRR institutionalization and mainstreaming:

- Public entities and officials that legislate or adopt policies or programmes at national and local levels
- Government agencies and organizations charged with implementing regulations, standards and codes
- Organizations that mandate others to take action or provide incentives for others to take action
- Public interest advocates and CBOs that can assist in implementation and provide political momentum.

DRR capacity assessment:

- Government
- Organizations with a role in DRR
- Academia
- Legal and public policy experts (who can evaluate and develop the framework).

It is also important to emphasize the engagement with beneficiary communities by these mentioned stakeholders.

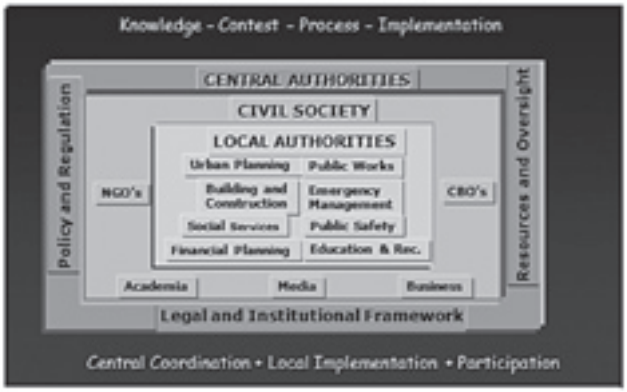

Figure 1.1.
EMI's mainstreaming model for local authorities.
(Source: Bendimerad, F., 2006. Disaster Risk Management of Megacities: the EMI Experience, Eight National Conference of Earthquake Engineering.)

Figure 1.1 is a mainstreaming model used to represent the mechanism to integrate disaster risk reduction within the city authority's core functions, activities and processes used by the Earthquakes and Megacities Initiative (EMI) for projects conducted in partnership with city governments. The centre of the diagram shows that several local authority functions are part of the strategy at the local/city level.

At the national level, policy making, establishing legal and institutional framework, and oversight (monitoring) are among the central government's main role. Its approach is "long-term, sustained and direct engagement with local stakeholders anchored on a local government-to-academia partnership and with support from local government." The model captures the essence of the relationship that need to be developed and promoted through the performance of the roles and responsibilities described above.

Box 1.1 The Indian Ocean Tsunami and Disaster Laws

When the Indian Ocean Tsunami struck in 24 December 2004, the affected countries were caught unprepared in many fronts in terms of how efforts of civil society organizations, volunteers, the military, international donors, and government agencies could be utilized effectively. The tsunami resulted in estimated damage of $4.5-5 billion in Indonesia alone. Three years after the tsunami, Indonesia's House of Representative passed the new disaster management bill in response to the need for a comprehensive legal framework to guide organizations with respect to their respective roles and responsibilities. The new Sri Lanka Disaster Management Act of 2005 provided for stronger institutions and legal arrangements among them.

Source: ADB, 2007. A Review of Emergency Preparedness in Asia and the Pacific, Small Group Workshop on Preparing for Large-Scale Emergencies, Manila, 5-6 July 2007.

Indicators

Priority for Action 1 has four 'core indicators' on which progress and challenges on implementation can be monitored and reviewed:

1. Local/city multi-sectoral platform: A multi-sectoral platform for disaster risk reduction is functioning in the city.

2. Stakeholder engagement/ mechanisms: Community participation and decentralized functions are ensured throughout the city.

3. Framework for disaster risk reduction: Policy instruments and tools to support city's institutional and legal frameworks for disaster risk reduction

4. Focal point and resource allocation for disaster risk reduction: Dedicated and adequate resources are available to implement disaster risk reduction activities within the city.

These indicators assist in assessing the extent to which disaster risk reduction has been a priority at the local/ city level. These indicators are aligned with the national HFA monitor and relate to the primary HFA tasks, as they appear in the Summary Table for HFA 1.

To these, it is useful to add contextual indicators that specifically deal with what can be major concerns in a locality, such as:

- DRR Integration with emergency response and recovery: in view of the fact that past practice had not been sensitive about reducing risks while conducting response activities, and during reconstruction and rehabilitation;
- Political commitment: bearing in mind the possibility of inconsistency between what is written in the law and agreements, and what is done in actual practice, e.g. law enforcement issues;
- Legal and regulatory system: with reference to compliance, penalties and enforcement issues.

Box 1.2 The Level of Mainstreaming Attained at Local/City Level

India's community based disaster preparedness (CBDP) is notable for having mainstreamed disaster risk reduction into development in all tiers. The system has been put in place in several priority states, a practice began in the Disaster Risk Management project of the Government of India with the UNDP (GOI-UNDP). The state government in India has the following lower tiers: district, Gram Panchayat, village, and block. The CBDP process is carried out by disaster management teams (DMTs) and the disaster management committee (DMC) with communities in the lower levels.

It has been observed that the level of skills and capacity of the stakeholders have much to do with the success of institutionalization. This brings to the fore the need to assess capacities. On the basis of the assessment results, capacities of stakeholders are enhanced. To upgrade the knowledge and skills of Gram Panchayat DMTs and village DMTs, existing government service providers are depended upon to hold training courses.

Summary Table for Priority for Action 1

Making Risk Reduction a National and Local/City Priority		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-1 **Engage in multi-stakeholder dialogue to establish foundations for disaster risk reduction**	• A local/city multi-sectoral platform for disaster risk reduction is functioning • Political commitment	A. National multi-sectoral platform for disaster risk reduction is operational
Task-2 **Create or strengthen mechanisms for systematic coordination for DRR**	• Community participation and decentralized functions are ensured throughout the local authority	B. Community participation and decentralization are ensured through the delegation of authority and resources to local levels
Task-3 **Assess and develop the institutional basis for disaster risk reduction**	• Policy instruments and tools to support national institutional and legal frameworks • Legal and regulatory system	C. A legal framework for disaster risk reduction exists with explicit responsibilities defined for all levels of government D. A national policy framework for disaster risk reduction exists that requires plans and activities at all administrative levels, from national to local levels
Task-4 **Prioritize disaster risk reduction and allocate appropriate resources**	• Dedicated and adequate resources are available to implement disaster risk reduction activities within the local authority	E. Dedicated and adequate resources are available to implement disaster risk reduction plans at all administrative levels

with a Strong Institutional Basis for Implementation

Guiding Questions	Tools
• Are different stakeholders engaged in a continuing dialogue for disaster risk reduction? • Is there political consensus on importance of DRR? • What is the degree of participation of civil society in DRR? • Is local/city government supportive to a community vision for DRR?	• Multi-stakeholder dialogues; management information system
• Are community participation and decentralization ensured through the delegation of authority and resources to the local/city level? • Is there an official policy and strategy to support community-based disaster risk management in the city? • Are communities empowered to participate in disaster risk reduction? Are city offices aware of their respective roles in reduction? • Are there committed and effective community outreach activities (DRR and related services, e.g., healthcare)?	• Stakeholder engagement mechanisms; local platform for DRR
• Is responsibility for DRR planning and implementation devolved to city government and communities? • Are city government and communities equipped with human, financial, and organizational capacities/resources? • Are city government DRR policies, strategies and implementation plans in place? • Are there relevant and enabling legislation (ordinance), land use regulations, building code, etc. addressing and supporting DRR at local level? • Are there mechanisms for compliance and enforcement of laws, regulations, building codes, etc., and penalties for non-compliance defined by laws and regulations? • Is DRR integrated into planning at the local/city level in key sectors such as agriculture, climate change, education, environment, health, housing, poverty alleviation, and social welfare? • Are the roles and responsibilities for disaster risk reduction clearly designated? • Is the legal and regulatory system underpinned by guarantees of relevant rights to safety, to equitable assistance, to be listened to and consulted?	• Development plan; land use plan; physical plan • Budget allocation for DRR • Disaster management ordinance; building code; fire code; zoning ordinance • Specific ordinances
• Are there institutional capacities for DRR at the local/city level? • Is budget allocated to local/city government and other local institutions adequate to enable DRR to be integrated into planning and actual activities? • Are financial resources available to build partnerships with civil society for DRR? • Are there logistical, and other such resources allocated for DRR? • Does the government provide training in DRR to local/city officials and community leaders? • Is a system of accountability in place, including transparency in the conduct of DRR and use of funds?	• Disaster risk management office; disaster coordinating council

Tools

Focal Point for Disaster Risk Reduction: Resource Allocation

Purpose

To reach the desired level of disaster risk reduction (DRR) consistent with the framework, stakeholder roles need to be defined. A focal point for disaster risk reduction will be responsible in the city government for ensuring that communities are safe. A dedicated office will ensure adequate resources are strategically allocated to fulfil the DRR objectives.

Relevance

Disaster risk reduction must not be regarded "just as an add-on" to the normal operation. Instead, it is mainstreamed into day-to-day operations of public and private organizations, in the government programmes, plans and projects, in the various sectors. This objective of this task is best achieved when resources – human, financial, material, administrative support – are allocated for managing risks.

How to do it

A set of DRR priorities should be established to determine how resources might be allocated. It is then necessary to identify the risks so that investments and budgets can be put where these are needed. Funding sources can be varied and decisions which ones to use for specific output and outcomes (i.e., disaster loss reduction) need to be guided accordingly. Determination of the priorities is done through an inclusive process which includes multi-stakeholder dialogues and consultations, possibly facilitated by the focal disaster management organization or local/city platform.

There are tasks that expected of the national government. National government needs to provide a DRM system and guidance for stakeholders on how to make it system work under the country's policy and legal framework. The national government needs to establish systems that require major investment, and product and service delivery systems which the country as a whole can benefit from. A system of risk assessment institutionalized into the planning and budgeting process will among other things, identify the level of risks across the country including the 'hotspots' exposed to different hazards. DRR-related laws, regulations and plans are put in place. The institutional arrangement is set up with a focal disaster risk management (DRM) organization adequately provided the mandate, resources, training and support.

The local/city DRM focal point is expected to do the following:

(1) Familiarize themselves with the DRM system of the country, particularly the roles and responsibilities that local/city government is assigned; and find ways to make the system for their constituencies.
(2) Familiarize with the resources (e.g., funding sources) and opportunities (e.g., training) that it can utilize for its DRR activities, programme, plans and projects.
(3) Link with national agencies, different government levels, and other resource organizations
(4) Build local DRR capacity using funds and alliances strategically.
(5) Ensure that DRR-related laws and regulations and enforced and complied with within its administrative boundaries.
(6) Harness DRR champions to motivate citizens and management of organizations and institutions.
(7) Explore financial alternatives, such as incentives, insurance, and microcredit to mitigate risks particularly of the vulnerable who live within its boundaries.
(8) Take an active interest and possibly invest in knowledge building so that lessons learned from disasters can be applied for future.
(9) Know the strengths of different stakeholders such as the academe, non-government, business and other sectors and partner with stakeholders that can complement with or collaborate in government activities to achieve DRR objectives.
(10) Have an appreciation for the wider meaning of DRR as opposed to an orientation towards response.
(11) Adopt policies that support and promote DRR government and non-government activities, whenever feasible; send feedback to responsible government instrumentalities when adverse impacts warrant a change in national policy.
(12) Facilitate the participation of citizens in appropriate venues to enhance disaster preparedness and involvement in disaster planning.

Summing Up

The list above indicates a whole range of actions which merit a second look in the context of several factors: national-local relations, citizens' well-being, scarce resources, exposure to risk, long-term vs. immediate impacts, partnerships, among others. Considering that local governments are faced with enormous amount of problems like crime, unemployment, inadequate water supply and sanitation, and traffic, what is essential is not to lose sight of the fact that the future of a city or town depends immensely on how prepared the local government and community are when a natural hazard turns precariously into a disaster.

Multi-Stakeholder Dialogue

Purpose

Stakeholders need opportunities to discuss their concerns, exchange information, and agree on how to deal with disasters together. Thus, a multi-stakeholder dialogue will bring all relevant parties in order to develop or strengthen disaster risk reduction efforts by all to make their city/town and community safer.

Relevance

Each country needs a national multi-stakeholder dialogue which can evolve into a disaster risk reduction platform. Such multi-stakeholder dialogue is especially critical for the localities where impacts of disasters are immediately felt. The dialogue will assist local/city governments, private entities, civic organizations, civil society organizations and residents share information, know each others' strengths and capacities, clarify their roles and thus, take appropriate action in concert. The dialogue provides the forum to explore partnerships among institutions and across sectors. Having local/city platforms will facilitate the process of generating and communicating feedback to the national level for more responsive policies and programmes.

How to do it

Each country is in a situation uniquely its own. Usually, stimulus and opportunities are provided by external agents – facilitators or intermediary organizations – who offer expertise and resources. Two examples, one from Yogyakarta, Indonesia (Box 3.2) and another from Metro Manila, Philippines (Box 3.3) are illustrative of the dialogue. These examples show that there are common principles that guide the dialogue. Among them are inclusiveness and feedback. In terms of specifics, a one-size-fits-all mindset may not work. The process is incremental; a planner may start lining up activities relevant to the dialogue process, but he/she relies on feedback from participants for direction. The dialogue is best initiated with a multi-stakeholder participatory workshop to recognize issues and reach consensus toward resolving them.

Background information such as a profile of the city/town with a focus on disaster-related aspects and different perspectives should be presented during the initiating workshop. A city profile template (Appendix B) has been used in Metro Manila city workshop process. It can be expanded to include other information such as to inform the discussion on assessment of hazards, vulnerabilities, and risks; studies of major and local disaster events, socio-cultural and gender perspectives; compilation of policies, strategies, laws, resources, institutional arrangements for disaster risk management; land use and urban planning; economic development, environmental conservation; the relevant stakeholders.

Summing Up

In the two examples, intermediaries external to the local/city government promote and guide the dialogue process. While intermediaries have expertise and resources to offer, they need a strong commitment from city or town officials to collaborate. Both are able to proceed due to the support of the highest government official or chief executive. This political support is an essential condition for any similar effort to succeed.

Disaster Risk Reduction Framework and Action Plan

Purpose

Policy, legal and institutional frameworks for disaster risk reduction should encompass the whole of local/city disaster risk management. The goal is to create a formal basis for achieving a safer and more sustainable society in the face of risk. This formal basis is consistent with the country's legislative and administrative system governing all areas of disaster risk reduction in the country.

Relevance

Whatever hazards, risk and vulnerabilities local/city governments may face, an adequate legal system and institutional basis are important to set the stage for good governance and therefore effective disaster risk management. Countries differ in terms of the level of local autonomy however it is essential for the local/city government to understand the disaster risk reduction needs of the locality particularly the population exposed to hazards. Such needs are revealed by recognizing the current capacities, gaps, strengths and weaknesses.

How to do it

(1) The platform, through a committee, convenes stakeholders for a planning and organizational meeting with the purpose of doing a self-assessment of disaster risk reduction capacities (Box 3.6 for assessment tools).

(2) A work group of the committee is tasked to gather documentation and information that will serve as background knowledge to disaster risk reduction experiences relevant to the locality and hazards to which it is exposed. This is done by reviewing studies of disaster experiences and lessons learned as well as interviewing government officials and other stakeholders.

(3) As part of generating a sound framework, a participatory self-assessment may be done in workshop format using one or a combination of methods At the workshop, the participants did SWOT analysis - identify the strengths and weaknesses of the existing system, as well as the opportunities and threats that affect the process of improving disaster risk reduction. The following aspects can be included among the issues to be assessed:

- Disaster risk reduction framework, Policy framework, Existing legal arrangements, Administrative structures, Vision Or The five HFA Priorities for Action
- Governance, Risk assessment, Knowledge management, Vulnerability reduction, Disaster preparedness.

(4) As workshop input, participating stakeholders prepare recommendations mainly for the local/city government and stakeholders on how to improve the disaster risk reduction framework and its implementation strategically. They give recommendations on how to integrate disaster risk reduction into the planning process and implementation in the sectors and functions of government.

(5) After the workshop, a core group, such as a local/city government task group, call a meeting to discuss the results of the self-assessment and the workshop recommendations.

(6) The core group works with experts and knowledgeable stakeholders to systematically review the disaster risk reduction options, and determine priority activities. Together with advisers, specific objectives for the programmes that will implement the national policy and strategic approach of the city/town. The core group proposes an implementation and monitoring plan which can include the definition of benchmarks and identification of indicators that will support progress measurement.

(7) The core group does a synthesis to create a plan consisting of comprehensive programmes with the corresponding implementing actions, timetables and resources.

(8) The platform consults with the relevant stakeholders either through a meeting or through circulation of the proposed plan in order to obtain input and eventually a consensus.

Summing Up

Using one or combination of tools for assessment, strategic actions or capacity development strategies are formulated. Four types of assessment are dealt with in Chapter 3, namely: SWOT analysis, the UNDP capacity assessment tool and two NGO tools that use the HFA framework. All result in the formulation of strategic actions or capacity development strategies.

The assessment needs the full executive and organization support so that the capacity development plan can be undertaken. Prioritizing actions is a matter that will need sensitivity to political and public support. The tools engage stakeholders throughout the process, and since it is a self-assessment, the process is grounded on local ownership and commitment to change.

Stakeholder Engagement /Coordination Mechanisms

Purpose

Bringing stakeholders together through formal and informal mechanisms increase coordination among and thus help establish or strengthen the "platform." The local/city platform (Box 3.5) serves as leader of local actions in support of the national platform for disaster risk reduction as HFA is implemented in the city/town. It reinforces the activities of the national platform at the lower geographical levels such as:

- Enhancing collaboration and coordination amongst disaster risk reduction coordinators
- Helping develop a culture of safety and resilience, where disaster risk reduction is understood as every citizen's responsibility
- Advocating for disaster risk reduction, particularly for its integration into development policies, strategies and activities.

Relevance

As mentioned previously, a multi-stakeholder dialogue may eventually lead to a platform for disaster risk reduction. The goal of a national platform is to help build a country's resilience against disaster, so as to safeguard the country's assets and ensure its citizens' well-being. A country's national platform can only be as good as the platforms of its parts – the sub-national units such as province, state, district, town, city, or village. Like the national platform, the local/city platform assembles together the combined knowledge, skills and resources that are required for disaster risk reduction and that are needed to incorporate it into development projects and programmes. The local/city platform can bolster mainstreaming disaster risk reduction into development policies, programmes and plans in line with the implementation of the HFA in towns and cities.

How to do it

Organizing a multi-stakeholder dialogue as mentioned earlier is the first step in developing a local/city platform (Box 3.5). The platform should build on any existing disaster management, development planning and finance system. It serves to facilitate interactions among the key development players in matters related to disaster risk reduction. It should be well linked with the national platform. To further strengthen the platform, donor agencies and country-based United Nations organizations can be invited in meetings and dialogues.

Less than a decade experience points to the potential of the local work groups to perform the role of the platform described above for a city/town. Disaster preparedness planning is also best facilitated by a multi-stakeholder work group. The community based disaster preparedness planning process in India began only in 2002 (Box 3.2). The process illustrates prospects for the work group to function as the local/city platform (Box 3.5). For details, Chapter 7 on disaster preparedness describes how the process works. Building upon activities done jointly with stakeholders in the city/town over time in a similar manner as the Germany (Box 3.4), the local/city platform can develop. The local/city government should commit some funding together with partner organizations in order to hold key regular activities such as an annual forum to discuss issues of common concern and to update stakeholders with new knowledge.

Formal mechanisms are started through the formation and active functioning of multi-stakeholder work groups and sub-work groups, interagency coordination or advisory committees, creation of liaison positions or groups, interagency task force, binding cooperative agreements, transfer of staff between agencies, joint training and orientation courses. Sending copies of reports to heads of other agencies and using a single report format by two or more cooperating agencies also facilitate communication. An independent monitoring and evaluation entity can help uncover constraints to coordination. Incentives (financial, promotional, professional) to encourage working on joint projects can motivate individuals to address coordination problems, and lead to creative approaches to thwart administrative obstructions.

Informal mechanisms include lending resources (such as personnel and vehicles) by one entity to another on an informal basis, using informal information systems by decision makers, encouraging informal communication between agency staff (through interagency weekend staff retreats, occasional seminars, interagency sports competition), periodic meetings of decision makers on an informal basis. Staff participation and a supportive management style encourage coordination at lower levels in the organization [13].

(13. Honadle, G., T. Walker, and J. Silverman, "Dealing with Institutional and Organizational Realities," in E. Morss and D. Gow, eds., Implementing Rural Development Projects, Westview Press, Boulder, 1985, pp. 46-53.)

Summing Up

In order for the local/city platform to take shape and be successful, formal and informal mechanisms to increase coordination are a must. More joint activities among agencies and stakeholders, and among decision makers mean more opportunities to interact and understand each others' perspectives. A participatory process which is inclusive of relevant groups from the government, private, academic and non-governmental sector improves the environment to accommodate ideas, to know each others' strengths and resources. Communication is reinforced by multi-stakeholder participation.

Experiences

Experiences at the national and local levels have been greatly facilitated by interventions of intermediate organizations like the UNDP and non-governmental organizations, as two examples show.

The experience of the Special Province of Yogyakarta in Indonesia (Box 3.2) illustrates an idea coming from the top, but it also shows that autonomous decisions can be made by authority as it sees fit. In Metro Manila (Box 3.3), an international NGO of scientists and technologies, partners with a local investigator, and engages stakeholders with commitment from city's leadership to work together a disaster risk management master plan (DRMMP). Both initiate a multi-stakeholder dialogue process. They also illustrate that a strong commitment from the local chief executive is an essential element not only to initiate, but more importantly, to sustain disaster risk reduction activities.

To give a more permanent structure or institutional framework, a platform where disaster risk reduction activities are advocated, conceived, planned and implemented is a must. National platforms (Box 3.4) have been growing in numbers and local platforms (Box 3.5) are still very much in the formative stage with the whole idea of putting priority on disaster risk reduction as a common objective.

The platform is ideally a focal organization, say a committee, comprised of multi-stakeholders whose combined mandates and resources will provide the needed fuel to achieve the tasks based on aspirations of the citizens.

Box 1.3 Risk Reduction Process in Yogyakarta, Indonesia

Over that last few years, especially after the Indian Ocean Tsunami of December 2004 and the World Conference in Disaster Reduction in January 2005, the United Nations/ International Strategy for Disaster Reduction (UNISDR) has promoted focused country-level actions such as national strategic action plans. In Indonesia, after the national government's launching of the National Action Plan (NAP) in 2007, it was felt that NAP needs to be followed up at the regional and local levels. Prior to NAP, the national parliament passed a new law on disaster management (Law 24/2007) that replaced the existing legal and regulatory framework. It was in the Provinces of Central Java and Yogyakarta where initiatives to develop Local Action Plans (LAPs) were undertaken.

The local government or the focal disaster management organization (more on this under Task 4) in the city/ town or region should take steps to initiate the multi-stakeholder dialogue. The dialogue can be started through a workshop with a carefully-designed and structured format.

(1) Identify key stakeholders to be requested to attend the workshop. Key stakeholders are those who should play a role in the planning, promotion of implementation of risk reduction strategies and programmes.

(2) Identify relevant existing governmental or civil society organizations. Assess whether the dialogue could be anchored within or benefit from these existing networks.

(3) Identify one or more disaster risk reduction champions.

(4) Convene the identified stakeholders, interested and affected parties in a workshop.

(5) In the workshop, level of exchange information, agree on shared vision and goals, identify actions, ground rules and working arrangement.

(6) If appropriate, establish working groups or committees to work on specific issues.

(7) Establish a mechanism for overall coordination of the work effort. Coordination includes setting and monitoring progress, and integrating outputs.

(8) Develop an arrangement or mechanism for keep the dialogue going.

(9) Set up a system for disseminating discussion results, and for receiving and acting on external input.

Results commonly should go to key officials, key representatives of participating organizations, and the public.

Source: UNDP, 2008. Final Report to UNISDR Support to Early Recovery Assistance for Central Java and Yogyakarta Programmes, Jakarta, 6 June.

Box 1.4. Risk Reduction Process in Metro Manila, Philippines

A megacity (defined by UN as cities with 10 million population or more) is complex particularly because it is composed of many political administrative units. Metro Manila is such a megacity which comprised of 17 local government units. The Metro Manila Development Authority plans for the capital region of the Philippines and provides services related to public safety and traffic. From July 2004, three cities – Makati, Marikina and Quezon City – had been collaborating in planning and implementing Metro Manila's Disaster Risk Management Master Plan (DRMMP). Taking off from hazard studies by institutions based abroad on the megacity, an international non-governmental organization of scientists and engineers called Earthquakes and Megacities Initiative (EMI) received the support of the local chief executives towards the objective of putting the DRMMP in place. The process created space to discuss and develop a vision: "a highly responsive and resilient community for a safe and protected built and natural environment." Currently, the DRRMP is in its implementation phase focusing on five implementation work outputs, which were identified by a large number of stakeholders. In this case, EMI is an intermediary or a facilitator working closely with government officials and a public research institute, the Philippine Institute of Volcanology and Seismology. The steps can be summarized as follows:

(1) Conduct a survey of sound practices in the cities and develop city profiles in cooperation with city focal persons designated by the mayors.

(2) Identify a local investigator to supervise and coordinate the process in the city.

(3) Identify key stakeholders to participate in the initial workshop such as:

- City government officers engaged in areas covering land use planning and management; emergency response, civil defense, police, fire, health sector; city management and governance; construction and public works; public services providers, water, electricity, sewerage, telephones, housing; education sector at different levels
- Other stakeholders: local policy makers, researchers, civil society, NGOs, representatives of professional associations; different chambers like architects and urban planners, civil engineers, construction, commerce, etc.; representatives of regulatory agencies; central government representatives; other interested groups.
- Hold the initial workshop: to establish a common understanding of the situation of disaster risk management in the cities, and present the results of the survey and city profiles in the workshop; to produce a common vision statement; and to identify ways and means to achieve the vision.
- An inter-disciplinary team reviews the recommendations of existing studies and develops a DRM framework and agenda called the DRMMP with ten elements.
- Hold series of consultations and stakeholders' workshops to review and prioritize elements/objectives of the DRMMP.
- Classify action items under objectives into short-term, medium-term and long-term.
- Identify areas of cooperation with the MMDA.
- Secure formal agreements with the local/city governments.
- Create focus group for each area of cooperation.
- Process and distil the action items into an implementation work output.
- Focus groups meet regularly in order to mainstream action items and continue dialogue with other stakeholders.

Reference: http://www. emi-megacities.org/.

Box 1.5. National Platform for Disaster Risk Reduction

National platform for disaster risk reduction is a nationally owned and led forum or committee of multiple stakeholders. It serves as an advocate of disaster risk reduction at different levels and provides coordination, analysis and advice on areas of priority requiring concerted action through a coordinated and participatory process. A national platform should be the coordination mechanism for mainstreaming disaster risk reduction into development policies, planning and programmes in line with the implementation of the HFA. For example, in Germany, the German Committee for Disaster Reduction (DKKV) is the national platform for DRR and the contact point of organizations and various initiatives concerning DRR. Membership to the committee is voluntary. It has policymakers, administrators, scientists, media people, and aid organization specialists lending their expertise as guest members. An annual multi-stakeholder forum serves as an effective channel to exchange information and communicate across disciplines and sectors.

Reference: http://www.dkkv.org.

The local or city platform will perform activities that will support the city/town in efforts to reduce disaster risk in the five Priorities for Action. It will maintain a local or city level perspective more adapted to the requirements of a city/town in terms of the hazard exposure, stakeholders and resources it has. Based on "Words into Action," activities of the local/city platform include:

1. Establish baseline information for disaster risk reduction, including disaster profiles, existing ordinances, strategies, capacities, resources and programmes.

2. Identify trends, gaps, concerns and challenges, and determine priority areas in disaster risk reduction including indentifying most vulnerable populations.

3. Benchmark progress made in disaster risk reduction and its integration into development planning and practices.

4. Develop result-oriented work plans on coordinating the implementation of DRR activities.

5. Document lessons learned and good practices, share findings.

6. Monitor record and report on implementation of DRR activities.

7. Cooperate with various sectors to better integrate DRR into development sectors, humanitarian assistance, and programmes on environment, biodiversity, climate change and desertification.

Box 1.6. Local-Level Platform in Nepal

The 2008 National Strategy for Disaster Risk Management in Nepal visualizes local-level platforms for villages and districts. The village development committee (VDC) is the lowest administrative unit to be responsible for local-level DRR and emergency response. On the other hand, District Disaster Management Authorities to be established by district governments will serve as the district level platform for DRR. Likewise, Municipal Authority for Disaster Risk Management shall be established by municipal governments and will serve as the municipal platform for DRM in urban areas and cities. Through the national and local platforms communications at central and local levels will be developed for proper coordination and collaboration with government and non-government agencies.

Source: http://www.undp.org.np/pdfNSDRMFinalDraft.pdf

Box 1.7. Assessment Tools

- The United Nations Development Programme (UNDP) has a capacity assessment tool which is being used by development agencies for analysing desired future capacities against current capacities. The tool is being used to support new institutional arrangements, specifically national disaster management organizations (NDMOs) in the Maldives and Sri Lanka. In these countries, NDMOs have low level of political influence, inadequate funding and limited professional expertise in DRR. These conditions offer unique opportunity to undertake meaningful steps towards comprehensive DRM. This can result in the integration of a more focused, stronger approach to enhancing capacities for disaster management and risk reduction in these countries. In other words, doing the capacity assessment has been a strategic move that serve to increase the commitment to DRR.

  Among the lessons learned in UNDP's Regional Programme for Capacity Development in Risk Reduction and Recovery are:
  (1) government and civil societies need better risk knowledge at local level such as those provided by local level disaster loss databases, and comprehensive and low level risk assessment resolution; (2) National and local authorities need tools to prevent, prepare and support local responses to the most vulnerable communities. (Source: UNDP, undated. A Guide to the Adaptation of the UNDP Capacity Assessment Tool.)

- SWOT analysis is also a tool for capacity assessment, according to the UNDP. SWOT analysis is a strategic planning tool that lends itself to a wide number of applications especially for organizations. It has been designed by strategic planners as a tool to understand an entity's positioning viz. competitors.
  The method was used to identify what actions might need to be undertaken to address the strengths, weaknesses, opportunities and threats facing DRR stakeholder groups in the Philippines with respect to the five HFA Priorities for Action and resource mobilization. This took place during the Second National Multi-stakeholder Dialogue on Disaster Risk Reduction held in one of the cities of Metro Manila, 29-30 April 2008. The workshop was part of the process to generate the Strategic National Action Plan (SNAP) for the Philippines, which included a capacity assessment component.

- Using the HFA framework of Priority for Action, two tools that are developed by NGOs and potentially useful in self-assessment are:

  (1) John Twigg's Characteristics of a Disaster-Resilient Community: A Guidance Note (commissioned by Action Aid, Christian Aid, Plan UK, Practical Action, Tearfund and British Red Cross). With "disaster-resilient community" as an ideal, the publication outlines characteristics of a disaster-resilient community of DRR, and characteristics of the enabling environment which is necessary for community-level initiatives to succeed in tabular form. Items in the tables present the ideal state, "not project output or outcome indicators in the conventional sense." The tables allow the users to go through the lists one by one. The author suggests that a participatory process of discussion and validation at the local level be utilized. Users decide by consensus and may determine levels of attainment.

  (2) Global Network of Civil Society for Disaster Reduction's "Views from the Frontline" Project.Expected outcomes from this action research include improved understanding of the level of disaster resilience at the local level in participating countries and improved dialogue among public, civil society and community stakeholders responsible for DRR. The project uses survey instruments for local government officials and planning officer, civil society organizations, and community representatives. The questionnaire design follows the five HFA Priorities for Action parameters or indicators deemed relevant for each stakeholder; respondents are asked to provide the level of progress based on a five-point scale. Then, open-ended questions pertain to challenges and constraints, recommendations, and examples of key success factors and good practices related to the Priority for Action.

Reference: http://www.globalnetwork-dr.org.
Government of the Philippines/National Disaster Coordinating Council, 2008. Strengthening Disaster Risk Reduction in the Philippines: Strategic National Action Plan (SNAP), 2009, 2019, Manila (Consultative version).

Activities shall conform to the established disaster risk reduction framework. Should the framework not be established or needing change, assessment of existing conditions (Box 3.6) is a healthy way to ensure that benchmarks are established and the appropriate direction of change can be identified.

So far, all the examples given illustrate cases wherein an external agent introduces changes or interventions such as the UNDP as facilitator and technical assistance provider through country programmes in India and Indonesia. The case of Istanbul is unique as much as the city government, Istanbul Metropolitan Municipality (IMM) initiated a strategic move towards producing an earthquake master plan. This case illustrates good practice for HFA-1, i.e. ensuring that DRR is a local/ city priority. A series of disastrous earthquakes in the Marmara region (not Istanbul) provided the trigger events for IMM towards drawing up a "master plan" (Box 3.7)

Box 1.8. Earthquake Master Planning in Istanbul, Turkey

Local authorities in Turkey recognized the high probability that a large earthquake may impact in the important urban areas of the country, and particularly in the megacity of Istanbul. This scenario prompted the Istanbul Metropolitan Municipality (IMM) to put in place a comprehensive disaster risk management system. This system incorporates preparedness, mitigation and emergency response procedures in order to reduce future potential losses and overall risk in the city of Istanbul.

IMM engaged four leading national universities – Bogazici University, Istanbul Technical University, Middle East Technical University, and Yildiz University – to prepare an Earthquake Master Plan for Istanbul. The master plan is a comprehensive document that incorporates all aspects of disaster management and proposes major projects for managing risks and for reducing future disaster losses in the city. The plan was reviewed by an independent body of experts.

The scope of the master plan covers the assessment of seismic vulnerability of existing building stock, the development of seismic retrofitting methods and rehabilitation of existing buildings, and technical, social, administrative, educational, legal, risk management, and financial measures needed to implement such methods.

The master plan is a planning technique that can help mitigate seismic losses and damage. Risk assessment, hazard evaluation and vulnerability analysis provides a scientific basis in order for risk-sensitive land use plans to be formulated. Through the master plan, city government and citizens can understand the priorities and be in better position to justify its policies and programmes.

Source: Based on case from EMI, Manual of Sound Practices, Manila, 2007.

HFA-2

Identify, Assess and Monitor Disaster Risks and Enhance Early Warning

Introduction

Local/city governments can undertake a number of tasks to implement HFA 2. This chapter recommends the following tasks:

Task 5. Establish an initiative for community risk assessment to combine with country assessments.

Task 6. Review the availability of risk-related information and the capacities for data collection and use.

Task 7. Assess capacities and strengthen early warning systems

Task 8. Develop communication and dissemination mechanisms for disaster risk information and early warning.

Risk information provides an important basis for determining measures and choosing actions to take. To generate this information, risk assessment must be done. Risk assessment forms the core of the disaster risk management process. It is however commonly observed that risk assessment is often limited by availability of resources.

City government and communities can adopt simple tools and methods in order to possess risk information thereby enhance capacity to respond to hazards with early warning systems. What is needed is commitment from government to providing technical and other support to local/city and community hazard/risk assessments. On the other hand, communities and other stakeholders are encouraged to participate in these assessments as they are the ones who can see and observe what happens where they live and work. Citizens and businesses are the ones immediately most affected by hazard impacts; they have a stake in knowing and understanding all kinds of risks to which they are exposed.

Stakeholders

This chapter covers risk assessment and early warning. It is addressed to the following stakeholders who have roles to play in risk assessment and early warning.

Risk assessment

- Designated authorities responsible for DRR and disaster management
- Disaster management organizations that use risk data and the institution in charge of disaster management (users of data)
- Agencies in charge of scientific data collection (meteorological service, geological and earth science institutes, etc.)
- Agencies collecting population, economic, tax and development statistics (census bureau, tax administration, cadastre, etc.)
- NGOs committed providing technical and other support to city and community hazard/risk assessments
- Community members and organizations trained in hazards, risk, and vulnerability and capacity assessment (VCA) techniques
- Vulnerable population.

Early warning

- Agencies and organizations involved in disaster risk reduction communication and dissemination, such as warning agencies, community-based organizations, communication technology companies and the media.
- Agencies and organizations with response capability, including disaster relief, civil defence and NGOs.
- Key technical experts in agencies such as weather or meteorological services and geological and earth science institutes should also be involved, to ensure that technical material is correct, and that it contains information relevant to target audiences.
- Community-based organizations often are well situated in the community to be helpful in communicating disaster reduction messages and disseminating warnings. If they are involved from the start in the design of risk communication strategies, the resulting information is likely to be more effective: the messages can be better tailored to target audiences and their specific interests.
- Communication and dissemination experts from communication technology companies and the media.
- Local/city governments, as they will be in charge of both communicating warnings to the population and implementing disaster response activities (such as evacuations).

Indicators

HFA Priority for Action 2 has four 'core indicators' on which progress and challenges on implementation are to be monitored and reviewed:

1. Risk assessments based on hazard data and vulnerability information are available and utilized (include risk assessments for key sectors)

2. Local/city and community systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

3. Local warning systems are in place for all major hazards, with outreach to communities

4. Disaster-related activities to monitor regional / transboundary risks.

These indicators assist in assessing the advancement made by local/city government and communities to monitor risks, providing information to community and making an early warning system work. These indicators are aligned with the national HFA monitor and relate to the HFA primary tasks, as they appear in Summary Table.

Summary Table for Priority for Action 2

Imploving Risk Informations and Early Warning		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-5 **Establish an initiative for community risk assessment to combine with country assessments**	• Local risk assessments based on hazard data and vulnerability are available and utilized	A. National risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors
Task-6 **Review the availability of risk-related information and the capacities for data collection and use**	• Local/city and community systems	B. Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

Guiding Questions	Tools
• Is there technical and other support by city government and NGOs to local and community hazard/risk assessments? • Does the local/city government obtain support to communities in the form of systematic hazard/risk assessments, and good quality hazard/risk data? • Are hazard/risk assessments constantly updated? • Are community hazard/risk assessments carried out? Do they provide a comprehensive picture of all major hazards and risks (including potential risks) that the community faces? • How participatory is hazard/risk assessment done? Are representatives of all sectors of the community and sources of expertise represented? • Are there skills and capacity development to carry out hazard/risk assessments maintained through training and other forms of support to communities?	• Hazard/risk mapping • Hazard assessment • Risk assessment • Community profiling • Community watching and resource mapping • Town watching • Resource assessment
• Are hazards being observed, monitored, and analysed? • Is hazard information disseminated? • Does the local/city government maintain population and census data, infrastructure inventory, business inventory, cadastral survey, property tax data, economic data and hazardous material location data pertaining to the area under its authority? • Are results of risk analyses (hazard identification, risk and vulnerability analysis) integrated into local/city risk management plans and development programming, including identification of vulnerable groups and causes of vulnerability? • Are assessments findings shared to all interested parties within and outside the community, and fed into disaster planning? • Are there community vulnerability and capacity assessments mechanism, including development, systematic document and mapping of vulnerability and capacity indicators covering all relevant socio-cultural, economic, physical and environmental, political, cultural factors? • Is existing knowledge (including local knowledge) systematically collected, synthesized and shared to support city-level disaster planning and other decision making processes?	• Risk assessment (including software) • Vulnerability and capacity assessment • Population and census data • Building inventory • Infrastructure inventory • Cadastral survey • Property tax data • Economic data • Hazardous material location data • Hazard monitoring system

Summary Table for Priority for Action 2

Imploving Risk Informations and Early Warning		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-7 **Assess capacities and strengthen early warning systems**	• Local warning system for major hazards	C. Early warning systems are in place for all major hazards.
Task-8 **Develop communication and dissemination mechanisms for disaster risk information and early warning**	• Local/city disaster-related activities to monitor regional/trans-boundary risks • Good coordination between the scientific functions and the emergency functions of government	D. Early warnings reach and serve people at the community level. E. National and local/city risk assessments take account of regional/ trans-boundary risks, with a view to regional cooperation on risk reduction. (Contextual Indicators)

Guiding Questions	Tools
• Is local/city government doing its role to communicate warnings to the citizens and implementing disaster response activities (such as evacuation)? • Are roles and responsibilities for all relevant organizations defined? • Are operational processes required for monitoring and warning in place? Is there an effective monitoring system? (Effectiveness includes sustainability of technical hazard monitoring equipment suited to local conditions and circumstances, which is run by people who are trained in its use and maintenance.) • Are warning centres staffed at all times (24 hours per day, 7 days a week)? • Are there fail-safe systems such as power back-ups, equipment redundancy, and on-call personnel? • Are there community-based warning systems? Are media (like radio and TV) being involved?	• Early warning systems • Flood markers • Fail-safe systems (e.g., power back-ups, equipment redundancy, on-call personnel)
• Are hazards being observed, monitored, and analysed? • Is hazard information disseminated? • Does the local/city government maintain population and census data, infrastructure inventory, business inventory, cadastral survey, property tax data, economic data and hazardous material location data pertaining to the area under its authority? • Are results of risk analyses (hazard identification, risk and vulnerability analysis) integrated into local/city risk management plans and development programming, including identification of vulnerable groups and causes of vulnerability? • Are assessments findings shared to all interested parties within and outside the community, and fed into disaster planning? • Are there community vulnerability and capacity assessments mechanism, including development, systematic document and mapping of vulnerability and capacity indicators covering all relevant socio-cultural, economic, physical and environmental, political, cultural factors? • Is existing knowledge (including local knowledge) systematically collected, synthesized and shared to support city-level disaster planning and other decision making processes?	• Risk assessment (including software) • Vulnerability and capacity assessment • Population and census data • Building inventory • Infrastructure inventory • Cadastral survey • Property tax data • Economic data • Hazardous material location data • Hazard monitoring system

Tools

Risk Communication and Dissemination Mechanisms for Disaster Risk Information

Purpose

Communicating and disseminating disaster risk information and early warnings to all sectors of the population help communities to prepare for disaster and therefore reduce losses. Behaviour change also needs to be triggered by communicating risk information in combined with awareness raising and ownership of knowledge.

Relevance

Risk communication, dissemination and preparedness to respond to warning are the weakest links. Therefore, it is necessary to allocate resources in ensuring the effectiveness of how disaster risk information is communicated. Emergency drills are an excellent way to raise awareness and build ownership of risk reduction in communities. Through drills, the process of communicating risk is simulated while communities are prepared to respond to the warnings.

How to do it

While national government may initiate the installation of early warning systems, local/city stakeholders must actively be engaged in order to make them work, i.e. ensuring their effectiveness. It is often necessary to tailor the early warning system to individual communities. For example, devices may work in one community but not in another. Thus, options such as radio or television, sirens, warning flags, gender-balanced messenger runners for remote communities, flood markers, or warning bells can be used singly or in combination depending on the community. In recent years, cell phones have been an immensely useful communication media through sending of SMS text messages, however the countermeasures to check the veracity and source of information should be in place in order to avoid "false alarm."

(1) When establishing the context, it is helpful to evaluate existing capacities in communication and dissemination processes. A matrix or table mapping stakeholders, their roles and responsibilities, existing capacities and areas of interaction can be created.

Stakeholder	Roles/ responsibility in communication & dissemination	Existing capacity	Areas of interaction	Gaps/ needs
Example: Local radio station	Broadcast typhoon warnings	Broad coverage of 7 towns	Receives weather updates from the Weather Bureau that are broadcasted	Information delivery is not timely

(2) Ensure that early warning messages are understood:

- Ensure that messages are delivered in the local languages and languages understood by the population.
- Adapt warning alerts and messages to the specific needs of people at risk (i.e., cultural norms, gender, and educational attainment).
- Upon issuance of warning, monitor the actions taken by residents at risk.
- Inform the community when the threat has ceased.
- Ensure that experiences regarding residents' access and reaction to warning messages are understood and are utilized to improve the system.

(3) Support communication and warning dissemination processes:

- Identify and designate volunteer groups to receive and disseminate hazard warnings among communities.
- Ensure that volunteers are trained on ways how support communication and warning dissemination.
- Promote a stakeholder sub-group that can serve as knowledge bearers on risk communication, indigenous and local knowledge thus promoting awareness of risks and risk reduction.
- Ensure that the work group conducts periodic evaluation of the communication and warning dissemination processes.

(4) Install effective early warning communication systems:

- Adopt a system tailored to the needs of immediate communities (including sensitivity to gender and indigenous cultures).
- Use appropriate warning or alert signals (Box 2.4) for respective communities.
- Ensure that all population sectors are reached: the vulnerable, seasonal workers, nomadic populations, tourists, etc.
- Identify and coordinate multiple communication media to disseminate warning (e.g., local radio broadcasts (Box 2.3); neighbourhood circulars).

Summing Up

Local/city government must constantly work with community-based organizations as the latter are well-situated in terms of understanding the effectiveness of communication and dissemination of early warning. Engaging the community and civil society at large to agree on alert signals and early warning processes increases the probability to reduce risk. Communication media most appropriate for certain communities must be determined based on field realities. From there on, capacities within communities can be built.

Early Warning System (EWS)

Purpose

The objective of an early warning system (EWS) is to put people out of harm's way from hazards by alerting them of impending threat.

Relevance

Early warning system (EWS) is the provision of timely and effective information, through identified institutions. EWS allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response. Thus, the EWS empowers individuals and communities threatened by hazards to protect themselves from personal injury, loss of life, damage to property and the environment, and loss of livelihoods.

How to do it

EWS should be people-centred. This means that warning systems must recognize human needs and human behaviour; it must be developed with local or citizen participation from both women and men. People-centred early warning has four elements (Figure 2.2): risk knowledge, monitoring and warning service, dissemination and communication, response capability.
Capacity to provide the four elements must be assessed in order to identify areas of weakness and necessary measures to fill gaps. All elements should be in place. If one element is not effective, this may result in failure of the entire system.
On the basis of the four elements, local actions are important for the EWS to work. Some steps to take include:

(1) The work group assesses the current EWS in terms of: defined roles and responsibilities for all relevant organizations (and that all stakeholders should be aware of these); cross-border arrangement for system integration; local autonomy and community participation.

(2) Check the process by which all agencies generate and issue warnings, for easy data collection and analysis, and standardize it.

(3) Ensure that hazard monitoring system is effectively working; local/city government and communities can help ensure that hazard monitoring and warning centres are staffed 24 hours a day, 7 days a week (24/7) through volunteers who are willing be trained.

Summing Up

For an effective people-centred early warning system, input from key technical experts is critical. It is essential that the country has access to such expertise, including those with technical background for monitoring, as well as response. Often, cooperation with national, regional and international organizations involved in the four elements of early warning is necessary. These include World Meteorological Organization (WMO); United Nations Educational, Scientific and Cultural Organization (UNESCO); World Health Organization (WHO); Red Cross and Red Crescent Societies. At the local/city level, volunteers from the community can provide valuable staff to hazard monitoring and early warning stations. Early warning champions who strive to raise awareness in the community must be given ample opportunity to carry out their mission.

Community Risk Assessment

Purpose

With citizens and city/town officials identifying the hazards and understanding more about them and the risks they face, they can make informed decisions on how to prevent, avoid, or mitigate losses resulting from hazard events. Risk assessment is a must for achieving a resilient society, therefore communities need to cooperate in the risk assessments in their localities as well as use the assessment results fully for achieving the community's vision for disaster risk reduction.

Relevance

Risk assessment identifies both the hazards to which an area is exposed and the physical, social, and economic vulnerabilities that exist within its populace and territory. With the help of scientists and engineers, the geographic and sectoral distribution of risk is mapped and possibly quantified when data are collected and analysed. Risk is analysed through systematic and periodic update of data, use of tools (see Box 2.1) and information to identify, map, and monitor hazards and vulnerability.

Disaster risk is a result of the interaction of nature with elements that are exposed to natural hazards. The elements at risk change together with processes such as urbanization, conversion of land uses, urban development, population increase, migration, industrial development, infrastructure development, environmental degradation, and climate change. Thus, based on the description and quantification of risks, the following can be effectively done:

- Identifying what structural and non-structural measures may be adopted
- Systematically collecting data such as building inventories and recording them on maps
- Estimating the damage and loss from a hazard according to given disaster scenarios.

Risk assessment and maps, especially when undertaken in a participatory manner, make people aware of risks and help to motivate them, prioritize early warning needs, and guide preparations for disaster prevention and response (See town watching in Chapter 2).

How to do it

Local authorities must familiarize themselves with the key risk assessment resources in your country: national government agencies, research centres, experts and practitioners involved in risk assessments, their respective roles and responsibilities. Find out which regional and local/city offices or stations service your locality.

The mayor should designate an appropriate department of the local/city government to deal with risk assessment Where such arrangement is not feasible, the work group could instead organize a sub-work group or task force to handle the tasks. The designated unit then asks for technical support from the appropriate risk assessment resources and explore the possibility of forming a risk assessment team to initiate and implement risk assessment. With experts, the risk assessment team:

- Reviews risk assessment studies – both hazard identification and vulnerability analyses – and identifies critical gaps in knowledge of risks, basic tools and materials.
- Focuses on areas most exposed to risk and areas where consequences of a hazard event could be catastrophic (especially, areas which are highly urbanized, densely populated, and where economic activities are concentrated)
- Determines whether basic tools such as base maps with appropriate scale are available
- Considers spatial, demographic or other changes in the built or spatial environment since previous analyses. Constituted authorities, local/city officials, community leaders are mobilized as part of a strategy to engage them in hazard and vulnerability analyses. Thus, at the community or village level, town watching provides an entry point in involving residents in risk assessment.

The team develops integrated hazard maps to identify the geographical areas and communities at risk. The team collaborates with relevant sub-work groups to conduct community vulnerability and capacity assessment (VCA) using participatory methods. Social, economic, physical and environmental vulnerability factors such as gender, disability, access to infrastructure, economic diversity and environmental sensitivities are considered. The team documents the study and maps capacities and vulnerabilities. Together with the risk assessment team, the work group develops a process to review and update risk data regularly, incorporating information on any new or emerging hazards and vulnerabilities. The updated information is fed to the local/city information system, packaged and disseminated to appropriate audiences.

Summing Up

Risk assessment needs strong support from the local/city chief executive, the entire local/city administration and all departments. The local/city chief executive may designate a department of work group to comprise a risk assessment team which includes experts. It is very useful to start from simple activities in risk assessment in order to draw the attention of citizens to hidden risks and what is do-able to protect themselves and avoid or reduce disaster impacts. This must be linked with the work group's activities such as enhancing the information system and getting the community organized for preparedness and mitigation.

Gap Analysis (Including Risk-Related Information)

Purpose

A gap analysis helps to understanding of existing and potential risks to different social groups, and to enable the development of a baseline to monitor progress on risk assessment and early warning. The use of loss data will help make it possible for stakeholders discern what prevention measures need to be put in place. Capacities and gaps in existing processes for gathering, analysing and disseminating data on hazards and vulnerability need to be understood in order to build a disaster information system (see Chapter 3),. With risk-related information, risk assessment and early warning systems will be strengthened.

Relevance

It is known that some hazards such as earthquake will occur in the future in areas close to the fault, but the precise circumstances of location and time are not easy to pinpoint. Science tells us that some places are intrinsically of higher risk. Risk is defined in terms of two parameters – the probability that an event will happen and the consequence that a particular event may bring about. Because of geographic location, a place can be considered safe or unsafe, or actually a place has several levels of safety with respect to particular hazards. Science can help in providing 'what-if' scenarios. Given a certain characteristic of a natural hazard and known inventory of buildings and infrastructure, exposed population and other elements at risk, potential damage can be estimated. On the basis of this estimated loss, investments to prepare and mitigate can then be substantiated. The actual benefit from such investments may even be more obvious if one knows how vulnerable the city or town is, for losses are proportionate to vulnerability. Organizing all these data and utilizing them as information resource help increase the level of preparedness and improve decision making in matters related to disaster risk management.

How to do it

The work group identifies agencies and organizations currently responsible for collecting and assessing data that relate to

- Observing, monitoring or disseminating information on meteorological, geological, biological, technological hazards and environmental degradation.
- Population census data
- Social and cultural data.

In consultation with national authorities and subject experts, the work group establishes methods to review the data and the way it is catalogued, synthesized and disseminated. A qualified person such as a consultant selected by the work group documents including risk assessment studies and summarizes the available data resources; the consultant identifies information gaps and submits recommendations on how to improve the information system.

The work group shares the study results to relevant stakeholders for comment and suggestions. It validates the results of the above study and prepares local/urban policies and programmes suitable for the local/city government.

In order to organize available data, it is useful that the types of data are described in a matrix or table. The matrix looks something like this.

Hazard	Available hazard data	Data collection agency/ function	Vulnerability factors	Socio-economic data collection
Example: Flood	Rainfall statistics	Weather Bureau (national)/ operation & maintenance of all rainfall gages; collation and dissemination of data; issuance of flood warning	Population characteristics - age, health, livelihood, gender	National Census Office

Summing Up

It is important to examine the critical gaps in data. Is there adequate information about the entire area? Oftentimes, census data are aggregated so that data about village communities are not reflected in published databases. It is not uncommon that even planning offices of municipal and city governments rely on census taken by the national authority every four years or so. Therefore, an accurate population figure is highly likely not to be available with assistance from national authorities and subject experts. The work group may consider how socio-economic data and information can be updated. The work group shall also make sure to include local and indigenous knowledge about hazards in the area.

Climate and Disaster Resilience Index (CDRI)

Purpose

The purpose of this tool is to enable cities and local governments to have a basic understanding on the resilience to hydro-meteorological hazards, and to develop climate action planning.

Relevance

Throughout history, cities have adapted to climate variability, but the intensity and pace of the present and forthcoming climate changes induced by the continued and ongoing emission of greenhouse gases are already and will increasingly be a major challenge to many of them. Urban communities are dependent upon the infrastructure that supplies them with essential services such as clean water, waste management, electricity, transportation, and telecommunications. Climate change threatens this critical infrastructure and they must be protected. If not addressed adequately, climate change could seriously impede the sustainable development of cities and their poverty eradication efforts.

How to do it

Since disaster resilience is a function of a diverse set of indicators, CDRI measures climate disaster resilience by considering five dimensions: physical, social, economic, institutional, and natural. Each dimension has five parameters (see Table 1) and each parameter in turn has five variables. Therefore, all in all, the CDRI questionnaire has 125 questions. But although efforts are made to make CDRI as holistic as possible, it is by no means an exhaustive assessment but summarizes instead some of the more significant and relevant variables. In addition, at the end of each parameter and dimension, survey respondents are requested to assign weights to the variables and parameters in order to reflect the priorities of the cities and the relevance of the indicators to the local situation. Using data collected from the questionnaire surveys, we used Weighted Mean Index (WMI) method and Aggregate Weighted Mean Index (AWMI) to compute the scores for each parameter and dimension, respectively. The CDRI of the city is the simple average of the indexes of the five dimensions. The index value ranges from 1 to 5. Higher CDRI values are equivalent to higher preparedness to cope with climate change and disasters. Needless to say, these results are not absolute values, but serve mainly as broad policy guidance. The quality of the results is very much dependent on the quality of the input data from the survey respondents.

Based on the results, the strengths and weaknesses of the cities in each of the five dimensions are highlighted. Then policy points and recommendations are suggested to provide encouragement of city governments' engagements in specific institution and capacity building. Not only are outputs from this study useful for city governments, but they also provide valuable knowledge and information to other local and national stakeholders having a similar target: the enhancement of community resilience.

Graphs can be created to help in visualizing the analysis results and to facilitate comparison between dimensions and between cities. One graph shows the city's overall resilience and five other graphs demonstrate the city's resilience in terms of the physical, social, economic, institutional, and natural aspects.

Summing Up

CDRI provides an overall idea of the city's resilience on five elements as mentioned above. These are directly linked to city services. Climate Action Planning can be linked to the CDRI, and specific short, medium and long term programs can be developed based on the planning.
Additional information can be found from: www.idem.ges.kyoto-u.ac.jp and/or http://www.preventionweb.net/english/professional/publications/v.php?id=8168

Risk Assessment

Risk assessment can be a complex and expensive matter. Characterizing hazards are an essential component of assessment, and basic knowledge and know-how are practical for city-level preparedness and mitigation. Alexander (2003) writes that assessment should address:

(1) Physical characteristics of the threat
- Seasonality
- Probability
- Speed of onset
- Duration of impact
- Identification of exposed areas
- Issues associated with multiple impacts

(2) Predictability of the threat
- State of prediction and detection technology
- Length of forewarning

(3) Controllability of the threat
- Applicability and implementation of structural mitigation
- Channelling the force of impact into place or forms that are less dangerous

(4) Sociocultural factors related to the threat
(5) Ecological factors related to the threat.

The level or depth of risk assessment performed depends at what planning stage information will be required. Planning especially for mitigation may be broken into three phases: study design, development diagnosis, and project formulation and sector plan preparation[13]. During the preliminary mission stage or study design phase, the objective is to identify existing hazards and potential natural events that can produce future disasters. The information requirement is simplest in this phase, relatively easy to obtain and requiring the least expertise. In the next phase, quantitative information is needed to explore what development strategy is feasible – information about location, frequency, and severity of occurrence of specific natural hazards, and the vulnerability of the population and the natural and built environment. The last phase consists of formulating investment projects to consist an action plan or mitigation plan for further study. Information required consists mainly of two types: maps and studies.

Information needs and identification tools for identifying some hazards are listed in Appendix C. Information particularly required for the study design phase consists

Box 2.1. Evaluating Tools and Instruments for Disaster Risk Management

In 2007, ICLEI organized a workshop to assess DRM tools; many, if not most of the 42 tools are applicable for risk assessment. Twenty-one criteria were used to evaluate the tools; the reader may wish to consider the criteria relevant to his/her situation. Unfortunately, few actually address the needs of local government decision makers or staff. City government representatives were quick to point out that it is not so much the tools but that training and capacity building (Note Priority for Action 3.) as well as a strategy for engaging local/city government decision makers (such as mayors and councillors) in DRM are required to effectively incorporate DRM into local/city policies and processes. ICLEI used the following criteria to assess DRM instruments:

1. The goal of the tool is clearly described.
2. Future actions are recommended.
3. Indication that tool reaches its goals.
4. Target group is clearly identified.
5. The tool is adaptable to specific circumstances.
6. Information is relevant to target group and "adds value."
7. Tool raises awareness of issues covered.
8. Tool's approach and/or philosophy are sound.
9. The tool is "durable."
10. Provision of clear instructions for use.
11. Tool addresses resources needed for implementation.
12. User support provided.
13. Includes descriptive illustrations and examples that target group can relate to.
14. Includes document templates.
15. Includes case examples/case studies.
16. Overall attractive appearance.
17. Information is well-written, and easily accessible to target group.
18. Use of graphic text boxes.
19. Clear and understandable structure.
20. Short, concise chapters/sections.
21. Tool can be obtained easily.

Source: ICLEI, 2007. Final Report to the German Technical Cooperation (GTZ) – Assessment of Disaster Risk Management (DRM) Guidelines and Tools, Toronto.

13 Organization of American States, Primer on Natural Hazard Management in Integrated Regional Development Planning, 1991 (http://www.oas.org/dsd/publications/unit/oea66e/begin.htm#Contents).

mainly of maps and event histories for cyclones (or hurricanes). For drought, it is likely that event histories are not enough; assessment studies of drought and desertification are needed to provide a more precise description of the risks.

Smaller scale maps are more useful for the later planning phases. More information about the hazard and its potential impacts need to be shown for Phases I and II. For earthquakes, epicentres, fault lines, regional geology, seismic risk/microzonation, and seismicity are important even for the earliest phase. The services of scientists and technical experts are already required to a great extent during these phases. Event histories are a basic information requirement, and therefore documenting hazard events is an invaluable aid especially where no monitoring stations are located.

To some extent, the assistance of government scientists and technical experts in hazard identification is invaluable. They may be asked to work together with local/city government and communities to provide technical input and insights regarding risks and built-up vulnerability for community risk assessment. As stated early in this chapter, local/city government and communities may adopt simple tools and methods in order to possess risk information. Disaster town watching is one of these. It has been proven that town watching enhances capacity to respond to hazards through identification of risk reduction measures such as identification of evacuation routes. It can be expanded to include early warning and other disaster preparedness activities. Technical expertise may be called upon depending on the scope of disaster town watching.

Disaster Town Watching

Town watching is a participatory tool used in community or neighbourhood planning in the context of a larger administrative unit (such as a municipality or city) in order for residents to recognize problems as a group and put forward solutions together. The use of town watching has been extended to dealing with disaster and safety related physical issues such as safe or unsafe (high-risk) places and evacuation routes, thus the term disaster town watching. In disaster town watching, citizens belonging to the same neighbourhood undergo a group process guided by a facilitator.

A variation of town watching is community watching using a three-day seminar-workshop format. Community watching initiates community-based disaster management, whose goal is to prepare vulnerable communities and reduce the impacts of damaging hazards by enhancing their coping capacity, thus enabling them to recover from those impacts and re-establish community functions at the soonest time possible. The basic steps are the same. Area coverage, specific objectives and available resources dictate the scope and range of activities that are undertaken in the workshop. Input from technical experts is useful to inform and educate residents through the seminar about hazards and risks, and to provide ideas concerning preparedness and mitigation. In the workshop, residents as internal stakeholders of their neighbourhood or community "engage in fieldwork," devise their own hazard or risk maps, and agree on what actions to take to attain the goal.

Before disaster town watching is done, it is essential that the local/city government supports it and the local/city government officers also actively participate as stakeholders. Local/city government planners and engineers are particularly important in establishing facts, providing base maps, and informing citizens about the municipal/city plan. Local/city government officers can enhance the actions decided by residents that can reduce losses from hazards. Their capacity as 'disaster professionals' can be built in terms of the needed knowledge, skills and attitude; disaster professionals can facilitate disaster planning and mitigation processes through participatory means, as well as help achieve community preparedness.

Town watching basically adopts a problem solving technique based on consensus among group members – from recognition of problems to resolving them. The participants focus on the selected area. Groups of five to six members are ideal to work together during the workshop. Each group receives a base map (a 1:2000 scale map in A1 paper works best), smaller sized maps on which each member is given, writing materials, and if resources permit, a digital or Polaroid camera to record images to be indicated on the map. Each group shall have a group leader, who ensures the results of observation and discussion are presented well; the photographer, who takes photos while observing in the field; a note-taker, who writes down important details and other observations made in the field; while the others assist. The following steps are do-able in two days.

Step 1. Learn about disasters. Participants receive introductory talks on relevant topics.

Step 2. Know your neighbourhood; do a field survey. Participants walk around the area to find out the current situation pertaining to hazards and risks: (a) dangerous facilities, spaces and points, and (b) facilities, spaces and points that can prove useful in the event of a disaster.

Step 3. Develop a map. Participants prepare the hazard map (or disaster map) discussing and marking vulnerable spots (unsafe stone walls, narrow streets, old wooden structures), contingency areas (open areas, water tanks for fire control), and escape routes.

Step 4. Identify problems. Participants jointly identify disaster-related problems and share the information for a common future agenda.

Step 5. Create solutions. Participants discuss how to solve disaster-related problems that the participants identified. They discussion from three viewpoints: (a) as individuals – what residents can do as individuals to help themselves; (b) as a group – what community members can do collectively; and (c) as government officials – what instruments and actions are needed to create an enabling environment to reduce risk.

Step 6. Present findings and recommendations. A representative of the group presents the results of the discussion to the workshop participants.

For more information, please see Town Watching Handbook, prepared by Kyoto University: can be downloaded from: http://www.preventionweb.nt/english/professional/publications/v.php?id=12062

Vulnerability and Capacity Assessment (VCA)

Vulnerability and capacity assessment (VCA) has been developed and used by organizations like the International Federation of Red Cross and Red Crescent Societies (IFRC) and the National Oceanic and Atmospheric Administration (NOAA). The aims of VCA tools are: (a) to identify the nature, location, intensity and probability of the threat; (b) to determine the existence and degree of vulnerabilities and exposure to those threats; (c) to identify the capacities and resources available to deal with the risks; and (4) to involve communities, local governments, humanitarian/development organizations in the assessment. Based on experiences in war-torn Palestine, the Palestine Red Cross Society, the three overriding principles of VCA are: (a) VCA puts people first; (b) VCA is a process, not a product; and (c) VCA involves all players from the outset.

The NOAA VCA process follows 18 steps: it includes mapping, identification of critical periods, estimating likely emergency needs of the "most vulnerable", categorizing sectors, facilities or community segments into relative levels of priority. It is intended to help emergency managers and municipal planners understand so they can address the needs of vulnerable populations, particularly during an emergency situation. The Community-wide Vulnerability and Capacity Assessment (CVCA) methodology is given as an example, as the typical sequence is well illustrated. Box 2.2 illustrates how the results of VCA can be used.

Community-Wide Vulnerability and Capacity Assessment (CVCA)

The analysis process of the CVCA model is intentionally sequential. One should firm up knowledge at one level or step before moving on to the next. The intent of each step is to provide further meaning or greater context to the understanding that one has of the "most vulnerable" segment of the population. The CVCA model (Figure 2.1) contains the following steps.

1. Create the Planning Team;
2. Set planning parameters;
3. Gather relevant information;
4. Define and map the general population;
5. Define and map high-density areas;
6. Divide and map the municipality into "Operational Sectors";
7. Define and map "high-risk" areas;
8. Select applicable categories for the "most vulnerable" (see category list);
9. Identify, categorize (as full or part-time), and map sites related or specific to the identified "most vulnerable" groups (e.g., seniors' homes, long-term care facilities, day-care facilities, social services access points, or clinics);
10. Identify and map other areas where each of the "most vulnerable" groups has significant numerical presence;
11. Identify intersection or overlap of "most vulnerable" groupings and "high-risk" areas;
12. Identify critical periods (e.g., D=workday hours, N=workday night, H=weekend/ holiday) when each group is particularly vulnerable;
13. Estimate likely emergency needs of the "most vulnerable" (i.e., of each vulnerable group within each sector);
14. Identify realistic expectations regarding the capacity of each identified group (consider physical, cognitive, resources, linkages, support system);
15. Consider conditions that change the presence or vulnerability level of the identified groups (e.g., population shifts during the day);
16. Categorize sectors, facilities or community segments into relative levels of priority (1 or highest, 2, or 3);
17. Identify issues or groups for further consideration or action;
18. Review and update your information as appropriate."

Early Warning

Early warning is defined by ISDR as "the provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response." ISDR also emphasizes that a complete and effective early warning system comprises four inter-related elements: risk knowledge, monitoring and warning service, dissemination and communication and response capability (Figure 2.2).

People-centred early warning system is advocated in order "to empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner so as to reduce the possibility of personal injury, loss of life, damage to property and the environment and loss of livelihoods[14]." Over the last decades, the number of deaths has significantly been reduced progressively in large measure due to the establishment of people-centred early warning systems and associated preparedness and response systems, according to the Centre for Research on the Epidemiology of Disaster (CRED). This applies to drought and famine-affected regions, as well as in industrialized countries where such systems are well developed, in addition to risk-transfer mechanisms already in place.

Advances in science and information dissemination technologies have greatly improved the creation of data archives and information bases needed in development planning and its several components, and to research on hazards and warning systems. Nevertheless, the role of conventional means of communication such as print, television and radio must not be neglected. Establishing lines of communication and a system at the appropriate level can help communities in very effective ways (Box 2.3). Different types of alert signals should be explored (Box 2.4). Some communities have traditional means to alert the people, such as church bells and indigenous devices. These should also not be neglected.

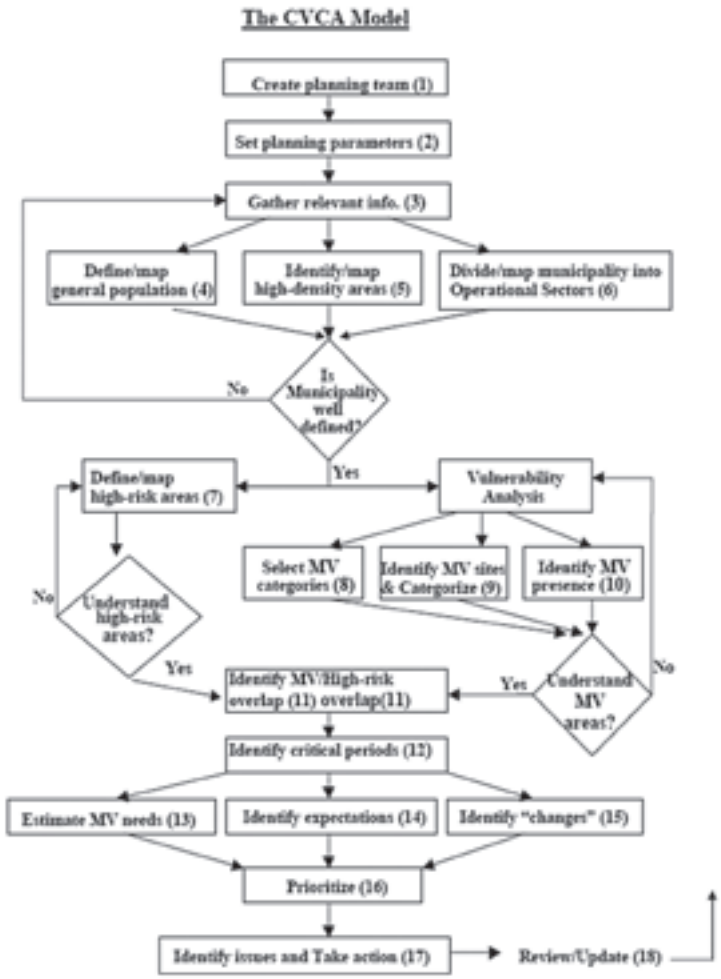

Figure 2.1. The Community Vulnerability and Capacity Assessment Model.

Note: "MV" means "most vulnerable."
Source: Kuban, R. and H. Mackenzie-Carey, Community-Wide Vulnerability and Capacity Assessment (CVCA), Office of Critical Infrastructure Protection and Emergency Preparedness, Ottawa, 2001.

14 United Nations (UN), 2006 Global Survey of Early Warning Systems, United Nations, Geneva and Bonn, 2006.

Source: UN/ISDR, Platform for the Promotion of Early Warning (PPEW).

Figure 2.2.
The Four Elements of People-Centred Early Warning

Box 2.2. Navua's Local Level Risk Management Pilot Project: Beyond Early Warning and Response

Since 2007 the Crisis Prevention and Recovery Unit of the UNDP Pacific Centre and implementing partners such as Fiji Red Cross Society, Fiji National Disaster Management Office (NDMO), and the Secretariat of the Pacific Islands Applied Geosciences Commission (SOPAC) have undertaken a pilot project in the Navua, Fiji. The objective of the project is to strengthen local level risk management by building linkages between local government and risk sensitive community.

In July 2008 implementing partners conducted the first Vulnerability and Capacity Assessment (VCA) in targeted communities in the Navua area. The VCA is used worldwide by the International Federation for Red Cross/Red Crescent (IFRC) in the most vulnerable communities to identify local capacities to cope with issues ranging from socio-economic phenomena like unemployment to natural hazards like flood. A VCA is a participatory research methodology which engages the community to collect first-hand data from several sources/community focus groups while at the same time creating a sense of ownership by the community.

The VCA in the Navua area paid particular attention to and documented the participation of women and men in the various planning mechanisms and focused on the roles played women and men. Preliminary findings of the VCA focus group discussions with women revealed that while there are active women's groups in the community, they have very little role in decision making processes regarding development. Further there was concern that decisions made by men were not always equitable and most commonly did not involve women. Concerns were also expressed by the women's focus groups that men were not very efficient in disseminating early warnings to the women to enable them to undertake their preparedness work in adequate time thereby making households more vulnerable to loss in the face of disaster. In addition, during floods, which occur regularly in the Navua area, women, who are less likely to know how to swim than men, sometimes remain in their houses to circulate flood waters to prevent mud from settling into their houses.

Gender sensitizing participatory approaches in this way may give practitioners a better understanding of existing gender relations and social systems. Using these as entry points is more likely to have sustainable impacts on behaviour and attitudes that foster gendered vulnerabilities to climate change, over time. Such an approach ultimately has the potential to inform the targeting of preparedness programmes to ensure that some sectors of the population are not rendered more vulnerable to the impacts of disasters and climate change as a result of reduced access to resources and information.
Source: http://www.undppc.org.fj/pages.cfm/our-work/crisis-prevention-recovery/human-secruity/navua-local-level-risk-management-pilot-project.html

Box 2.3. Community Radio as an Immediate Warning System, Labo, Philippines

DWLB-FM began broadcasting in late 1999 to provide the cheapest yet fastest information tool in disaster risk management, educating the people of their responsibilities as members of a community. Being a remote municipality located 335 km from Manila and 15 km from the provincial capital and poorly connected, Labo's residents depended on the community radio for typhoon and flood warning. Eleven of the town's 52 barangays (villages) are flood-prone. Farmers working the fields in far-flung villages are updated on the course of an approaching typhoon or on the threat of imminent danger. The communities on the slopes are also advised ahead of time of the need to evacuate to safer places in times of intermittent but long rains that could soften the soil of the slope and eventually trigger landslides.

During natural calamities, DWLB-FM serves as a source of emergency advisories and a warning system not only for Labo but for the entire province. There were times when Labo or the 2ntire Bicol region was hit by a typhoon and DWLP-FM, which has a stand-by generator, was the only radio station on air 24 hours to provide people with the latest weather updates.

Reference: Galvez, C.C., Community Radio and Emergency Response Teams: Public Awareness as a First Step, in Oxfam, Building Resilient Communities: Good Practices in Disaster Risk Management in the Philippines, Quezon City, 2008 (edited).

Box 2.4. Sample Types of Alert Signals

- Sirens
- Radio and television break-in announcements
- Loudspeakers (e.g. on mosques)
- Mobile loudspeakers/megaphones
- Telephones
- Cellphones/pagers
- Knocking door-to-door
- Bells (e.g. church bells)
- Flares
- Aircraft with banners or speakers
- Banners/signs
- Indigenous devices (e.g. the karongkong, a piece of bamboo which is struck in Dagupan City, Philippines).

HFA-3

Use knoweldge, Innovation and Education to Build a Culture of Safety and Resilience at All Levels

Introduction

Local/city governments can undertake a number of tasks to implement HFA 3. This chapter recommends the following tasks:

Task 9. Raise awareness of disaster risk reduction and develop education programme on DRR in schools and local communities

Task 10. Develop or utilize DRR training for key sectors based on identified priorities

Task 11. Enhance the compilation, dissemination and use of disaster risk reduction information.

Raising community awareness and support for a comprehensive approach to DRM is key to sustaining DRM efforts. Local/city government should be proactive in engaging the citizens. An important aspect is how the local/city government communicates through its staff with communities and it utilizes participatory planning methods. Although non-governmental organizations possess the knowhow of participatory methods, the process of how to engage citizens of varying ages, sexes, socio-economic status, educational background, occupations, and cultural roots should also be a concern in building the capacity of local/city government staff.

Systematic training is essential in the overall capacity building strategy. It must be borne in mind that frequent staff turnover may work against an otherwise steadily improving skilled and experience workforce. In local/city governments of some countries, officers are rotated in different departments; steps must be taken in order to minimize the negative result of such practice or institute an alternative arrangement as they pertain to disaster risk management capacity.

The whole set of activities under this Priority for Action has been referred to as knowledge management, or knowledge and education. Collective wisdom from multiple experiences and perspectives comprise knowledge. What is needed is how to connect these experiences and perspectives; leveraging the resulting knowledge will contribute much to be able to respond to unencountered situations. Information that does not precipitate action remains as information. Knowledge management leads to innovation.

Stakeholders

Awareness raising and empowering all levels of society

- Media and public communicators
- Educators and other institutional actors
- Government officials at national and local/city levels
- Community leaders, women's groups and local/city groups involved in public actions

Integrating DRR in the education system and research community

- Educators
- Local/city education or school board
- Department of Education representatives and higher education policy makers
- Disaster risk management experts
- Academicians and researchers
- Parent and teacher associations
- Children and youth
- Private sectors, public sector and communities
- Non-governmental and community-based organizations.

Indicators

In view of the areas outlined in the HFA, Priority for Action 3 has four 'core indicators' on which progress and challenges on implementation are to be monitored and reviewed:

1. Public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities – sharing of sound practices, disaster awareness month or days, etc.

2. Access to information management and sharing on disasters

3. Availability of education materials and relevant training on disaster risk reduction

4. Documentation on multi-risk assessments and disaster experiences, especially lessons learned

These indicators assist in assessing how effectively the local/city government has used knowledge and education to ensure that key stakeholders and communities are well informed to build a culture of safety and resilience. These indicators are aligned with the national HFA monitor and relate to the HFA primary tasks, as they appear in Summary Table for HFA 3.

Earthquake Engineering (AIS, the Spanish acronym) to establish a standardized procedure for post-earthquake building inspection[15]. Training program for engineers, architects and builders had been held annually since. On the other hand, two professional organizations – the Philippine Institute of Civil Engineers (PICE) and the Association of Structural Engineers of the Philippines (ASEP) devised the Disaster Quick Response Program (DQRP) for volunteer professionals/practitioners[16]. The two professional organizations had been conducting the course on request in various parts of the country, and participate actively in simulation drills, including those that take place during the Disaster.

15 Disaster Risk Management Sound Practice Profiles, http://www.pdc.org/emi/emidisplayspbygroup.html.

16 http://www.pice.org.ph/dqrp.htm.

Summary Table for Priority for Action 3

Building a Culture of Safety and Resilience		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-9 **Develop a programme to raise awareness of DRR consistent with that of the country**	• Effective programme or strategy for public awareness and skills development	A. A national public awareness strategy for disaster risk reduction exists that reaches all communities and people of all educational levels
Task-10 **Develop or utilize DRR training for key sectors based on identified priorities**	• Availability of education material and relevant training on disaster risk reduction • Skills, knowledge, attitudes, and motivation	B. School curricula at all levels include disaster risk reduction elements and instructors are trained in disaster risk reduction at national through to local levels
Task-11 **Enhance the compilation, dissemination and use of disaster risk reduction information**	• Access to information management and sharing on disasters • Documentation on multi-risk assessments and disaster experiences, especially lessons learned • Access to multi-resources	C. Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems etc) D. Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strenghtened (Contextual Indicators)

Guiding Questions	Tools
• Is the general public aware of and informed about disaster risks and how to deal with them? • Are there appropriate awareness-raising programmes consistent with those of national agencies? • Is media involved in risk communication and awareness-raising? • Do citizens and other stakeholders have opportunities for two-way dialogue on disaster issues with local government? • Are awareness-raising programmes based on the needs of communities? Are local knowledge and coping mechanisms taken into account in these programmes? • Does the DRR programme take into account population characteristics (i.e., cultural identity, age, literacy)?	• Disaster awareness programme • Information, education and communication (IEC) campaigns • Indigenous and local knowledge • City/town information centres • Instructional materials
• Is disaster risk reduction included in relevant primary secondary and tertiary education courses? Are education materials available? • Do local/city schools provide DRR education for children through both curriculum and extra-curricular activities? • Does DRM/DRR training address priority needs identified by local/city stakeholders? • Are local/city stakeholders trained in relevant skills, knowledge and attitude for DRR? • Do community members have feelings of responsibility to prepare for disasters and reduce risks? • Are regular drills conducted to test effectiveness of preparedness measures and warning system?	• Disaster preparedness relevant school curricula • Training programme/ network • Online courses • Support of dialogues • Information exchange • Coordination and stakeholder engagement
• Is local/city government transparent to share information and dialogue with communities relating to information about risk and disaster risk management, including the roles of community? • Has an appropriate focal point been designated for local communities to contact? • Are appropriately designed local awareness raising programmes consistent with that of the national programme and being implemented? • Is information disseminated using local languages or dialects? Are foreigners (such as foreign tourists) provided necessary information in their languages? • Are public and private information gathering and sharing systems on hazards, risk, disaster risk management resources, and sound practices accessible? • Are remote communities covered properly? • Are disaster plans publicly available and understood? • Are communities involved in developing the content and methods of communicating information? • Is the impact of information materials and communication strategies evaluated? • Are specific needs of each community reflected? • Does the local/city government systematically document local events, coping mechanisms, and expertise on DRR? • Are there stakeholders who have the skill to do the documentation? • Are appropriate training opportunities and resources available to local/city stakeholders? • Does the local/city government or other institutions provide resources for documentation and research? • Can information be obtained from different sources? • Can stakeholders make use of different media to obtain information? What media works best for different stakeholders?	• Disaster information system and inventory • Disaster awareness programme • Cost-benefit analysis • Risk analysis • Risk evaluation • Websites, databases, online platform (e.g., MEGA-Learn)

Tools

Disaster Information System

Purpose

The disaster information system identifies, compiles and disseminates information and knowledge about natural hazards, disaster management and risk reduction issues for use by local/city governments, communities, organizations and practitioners. It embodies information management and systematic sharing on information relevant to disaster risk reduction (DRR).

Relevance

Reliable information is the basis for making and taking decisions in general. This is true of disaster risk management as well. Information well packaged and disseminated to appropriate audience can serve not only to provide facts and knowledge but also motivate and change human behaviour more attuned to risk reduction. Alternatively, there is never enough information; decisions need to be made despite incomplete information.

How to do it

A sub-work group identifies unmet needs of information among various DRR stakeholders and on the basis of this, develops a comprehensive information management programme. The programme can focus on how the local/city information system may be linked with that of the national. It is best linked with national and regional information bearers to find out what the information gaps are. Key actors from government, private sector, civil society and academic disciplines in the collection, synthesis, dissemination and use of available information are identified so that they can be engaged in the programme. In consultation with the national authority, assess what actions need to be taken in order to establish a responsive and appropriate local/city information system. Aspects needing attention include: (1) detailed inventory of existing information that can and should be made public, (2) preparation, collection, utilization and analysis of information that is as far as possible sensitive to gender, relevant and educational backgrounds, as well as age groups, and abilities, (3) appropriate means to provide information required by defined audiences, (4) exchange of information building upon existing multidisciplinary partnerships, and (5)availability of information in the local language(s).
In terms of communicating information, local focal point

- Organizes community facilities or daily contacts and media being used to disseminate disaster risk reduction information and personal means of communication used in conjunction with such communication – such as text messages, telephone or facsimile.
- Ensures that standard terminology for disaster and risk reduction information is consistently used, and that such information can be understood by all stakeholders.
- Develops content and methods of communicating information with communities.
- Deploys indigenous, traditional, informal communications networks.
- Evaluates information materials and communication strategies as necessary.

Summing Up

It is desirable that a national disaster risk reduction information system is put in place. Local/city governments are at an advantage if an appropriate information system consistent with the national information system is established. Whether the information exists or not, the local/city government's commitment to information sharing and dialogue with communities relating to information about disaster risk management is essential. Communication of DRR information requires that people clearly understand the information for the purpose it is intended and that sufficient and proper technology is utilized to collect and disseminate data and information. Information materials must be relevant to the geographic area relevant to the local/city government's territory. Do the materials deal with the hazards to which the citizens are exposed? As new knowledge is gained, it is necessary to upgrade technical abilities and capacities to use new information.

Public Disaster Awareness Raising Programme/Strategy

Purpose

A public disaster awareness raising programme/strategy aims to inform people about disaster risks and of measures on how to reduce these risks. The ultimate goal is to make disaster risk reduction an accepted public value among opinion makers and the general public, and to empower all citizens to reduce their risks. The programme/strategy is designed to deal with information and education requirements of different target groups.

Relevance

Disaster awareness empowers people to protect themselves in their everyday lives and through their social obligations, professional responsibilities, or work duties. Understanding of disaster risks by the population also increases the effectiveness of early earning and disaster risk reduction policy implementation.

How to do it

A sub-work group can be formed to handle the awareness raising programme or strategy by the local/city chief executive. The media, educators, religious leaders, women's groups, community organizations, and NGOs should get involved. Material and financial resources from government, community and private or business can sustain the programme. The programme should use accurate and current knowledge about the disaster risk and communities. With such conditions, community members will develop better understanding about disaster risk reduction, accept, and support the campaign and put the campaign's message into action. The strategy should be oriented to different target groups. Awareness raising starts from a young age, and at the household level. The mother and child are effective agents for improving safety and resilience.

Under the programme, the sub-work group can design an information, education and communication (IEC) campaign directed towards the different target groups with the help of communication professionals. Together, activities and appropriate information materials may be designed to suit different audiences. For example, a poster competition among schoolchildren can awaken young minds to artistically express strong messages pertinent to the contest theme. By bringing citizens' awareness to a higher level, their participation in problem identification and resolution can be enhanced. Essentially, this motivates them to be part of disaster management planning. Other means to accomplish this are rallies, street plays, distribution of IEC materials, wall paintings on do's and don'ts of dealing with hazards. Meetings and seminars attended by key persons in the community, school teachers, health and social workers, youth representatives, and women's groups also reinforce positive values to a safer living environment.

Local/city government should work together with schools, colleges and universities so that to find out how well students understand how to deal with disaster risks, how well prepared they are determine what needs to be done further. The sub-work group or a suitable department of the local/city government ensures the incorporation of relevant disaster risk reduction into education by facilitating the use of locally-relevant data, information and knowledge in local/city schools and universities. Oftentimes, schools are used as evacuation centres or temporary shelters. Schools also play a major role in preparing future citizens who can substantially help reduce risk in communities. For this reason, the school provides a natural setting to inculcate appropriate behaviour regarding disasters. In Bogota, Colombia, a city-specific programme to mitigate earthquake disaster has been instilling a culture of prevention among school children (Box 3.1).

Higher education and applied research also merit special attention as they are the sources of practical means to build disaster risk reduction capacities. While national level education and research institutions may be doing their part in disaster risk reduction, local actions are necessary for immediate impact. It is important that what students learn about hazards and disaster risk reduction in schools and universities are relevant to the place where they live and study. For effective learning, field trips, dramatic arts and other forms of student engagement in the context of their location and existing resources can be maximized to communicate in a more appealing and immediate manner.

Summing Up

The local/city chief executive, officials and community leaders must provide leadership in the disaster risk reduction awareness programme of the town or city. By showing this firm support, others will follow suit. All local/city government officers should be involved in programmes that raise disaster risk reduction awareness.
A critical factor that can affect sustainability of local knowledge development is the availability of necessary resources and funds for teachers or the academe, and researchers. Such local concerns need to be made known to the larger, broader national multi-stakeholder platform and political decision making mechanisms. Considering all these, political commitment of the mayor and key community leaders is extremely useful.

Training Programmes and Networks in Support of DRR

Purpose

This task aims to equip local/city policymakers, government personnel, development practitioners, disaster managers, planners, builders and contractors, homeowners, business operators and owners, and community members with appropriate and relevant knowledge and skills to integrate disaster risk reduction (DRR) into their own activities and into other relevant sectors through various training and capacity development initiatives.

Relevance

The task of developing training and capacity development initiatives to integrated disaster risk reduction into municipal or city development builds on efforts to raise DRR awareness among the officials and the citizenry. Apart from this, individuals in their respective professional jobs and responsibilities are equipped to secure their own safety, as well as safety of their families and communities through well-designed training courses or modules. Good formal training programmes emphasize the integration of disaster risk reduction into key development sectors; they also encourage the utilization of indigenous knowledge, traditional practices, gender sensitivity, and other cultural perspectives in risk reduction. Here, the sectors refer to the economic sectors (agriculture, industry, services) as well as local/city government functions/services (public health, environmental compliance, transportation, building permits, etc.)

How to do it

The work group engages the local/city government, institutions and communities in identifying key people to be trained, based on disaster risk reduction needs and gaps. Training priorities are identified by based on assessed needs. These needs can be identified during the local disaster risk reduction process, particularly when gaps are analyzed. The target groups include women's and community groups, NGOs, and professional associations or trade organizations as well.

Local/city government and institutions identify, strengthen or familiarize with updated standards or other systems for professional certification and/or licensing that can promote sustained disaster risk reduction knowledge and skills. Training activities must use updated standards and systems. Target groups include homeowners and builders who need to be trained in safe construction and retrofitting techniques, and other practical measures to protect houses and buildings. The work group assists in linking local/city government and institutions up with national and regional education and training programmes and centres, as well as professional courses, seminars and workshops. It identifies training resources (financial, technical, material and human) to support DRR by government, emergency services, and NGOs as well.

Training course attendees shall be encouraged to provide echo seminars to relevant community members and/or profession. Local training can be conducted by institutions using local resource persons, whenever appropriate. Expertise in the city/town should be nurtured and provide incentives in order to utilize the training courses to a maximum.

Summing Up

Formal training serves an important purpose in the context of how a city or town might develop its DRR capacity. Executive and organizational support is needed in order to obtain maximum benefit out of personnel who undergo training. Training can be as good as its relevance to local conditions. The availability of training opportunities needs to be explored first; local education and training centres, some organizations may offer DRR training attuned to local conditions requirements and offering cost advantage over those held in the national capital city or elsewhere.

1-2-3 of Disaster Education

Purpose

The purpose of this tool is to enable students, teachers and education systems to make process based and action oriented disaster education.

Relevance

Two key issues in Disaster Risk Reduction Education (in this publication, it is mentioned as Disaster Education) are important: Disaster education should not be an event (like an evacuation drill), it should be a process. Disaster education should break the school boundary, and be linked to the community and family. The importance of linking school education with family and community education is gradually recognized and currently practiced in some countries, engaging students in more pro-active partnership with the neighborhood. However, there are few tools and workbooks available for this type of disaster education. This workbook makes a modest attempt to provide a rather comprehensive disaster education program linking the school, family, and community.

How to do it

The ultimate goal of disaster education is that people take appropriate measures before and when a disaster occurs. To achieve it, this tool proposes the KIDA Tree model. KIDA was developed based on the AIDMA model. The AIDMA model has been used in the field of advertising to consider the process from consumer giving attention to products to buying them. AIDMA consists of Attention, Interest, Desire, Memory, and Action. Disaster reduction requires people to have appropriate knowledge and take action. KIDA is knowledge, interest, desire, and action. Knowledge, interest, and desire are necessary to promote to take action and actions are significant outputs of disaster education. The programs in this book are classified to K, I, D, or A, and one can learn disaster management step-by-step.

The following are the characteristics of this tool:

- This tool provides one-year education program.
- This tool provides two levels of one-year education program.
- This tool provides three kinds of disasters education programs.

Disasters targeted by this tool are Typhoon, Flood, and Earthquake. Education programs are divided into priority programs and optional programs. If one has time and interest, they can do optional programs in addition to priority programs. This tool provides one with opportunities of disaster education in school, house, and community. One can start education programs and learn disaster management with your friends, teachers, family, and community. In total, there are 43 activities, 16 for typhoon, 13 for flood, 14 for earthquake. Among these, there are 9 activities linked to knowledge, 12 linked to interest, 12 linked to desire and 10 leading to action.

Summing Up

1-2-3 of disaster education is an innovative tool for engage the students in educational activities in school, community and family. The tool needs participation of wider stakeholders of teachers, students, parents, community leaders, education departments. The tool can be downloaded from: http://www.preventionweb.net/english/professional/publications/v.php?id=12088

Building a Culture of Prevention and Resilience

Building a culture of resilience in communities relies on how aware and informed local/city leaders and community residents are about disaster risk reduction. It is important that local/city-level initiatives in public disaster awareness raising and information dissemination are consistent in context with that of the country's information, education and communication strategy.

Awareness is the first step toward action, as a United Nations publication focusing on the role of schools in disaster risk reduction says[17]. Schools being "the best venue for sowing collective values, school students and teachers serve as vehicles for building a culture of prevention," it continues. Schools are very much part of community life. In many countries, schools are utilized as evacuation centres and temporary housing for people displaced from their homes by a disaster. In Japan, residents congregate in schools for community summer festivals; through the parents-teachers association, a connection between the school and the community is established. The school is a place to inculcate disaster risk reduction. Children can be effective agents in the home and the community to build a culture of prevention. It can begin by ensuring that views and interests of children are incorporated in the school disaster risk management plan (Box 3.1). Thus, disaster risk reduction begins at school.

According to the same UN publication, "Prevention begins with information." Hence the compilation, dissemination and use of disaster risk reduction information. Local government can also play an important role in documenting coping mechanisms and expertise. The practice may begin in the "small way" of recording water levels regularly. In Dagupan City, Philippines the city government encourages eight pilot communities to do this. On the other hand, the city government updates the risk assessment data, such as affected population, number of houses, social services, critical facilities, and existing economic means, and calibrates the alert level as part of the early warning system in the city proper and outlying barangays. The latter is based on recorded flood water levels. It is also developing incorporating disaster information into the city's geographic information system.

The case of Lijiang, China (Box 3.2) illustrates old practices that reflect local knowledge and value system for the protection of its architecture and environment. Despite pressure from liberalization of the economy, the city government's resolve to preserve cultural property and promote sustainable tourism has been shown in an outstanding way in its recovery from a strong earthquake on February 3, 1996. Continued outreach providing information has enhanced the public's collaboration in preserving its assets through the use of earthquake-resistant building techniques.
Lastly, based on identified priorities on training needs, local/city government officers and residents are given opportunities to be trained and part to networks in support of disaster risk reduction. Simulation drills are essential in preparing individuals, households, schoolchildren, office workers, managers, officials and personnel involved in emergency services for hazard events. Some town/cities that serve tourists and immigrants should also pay attention to making information and training available in a foreign language most predominantly spoken or read.

Los Angeles in the U.S. is a multi-racial city where the immigrant populations are mostly Spanish speaking. In Los Angeles, there is an "organization of people who are concerned with the community and its needs in time of disaster[18]" called "Latinos Preparados." The organization makes pre-disaster information available in Spanish. It also offers classes in first aid/home safety and disaster preparation in Spanish.

Post-disaster structural evaluation is an essential procedure to ensure that dwellings and buildings are safe to occupy. By having engineers and relevant professionals trained, structural evaluation can be carried out speedily. Apart from which structures can be safely used, those that can still be rehabilitated are also identified. Civil engineers In Bogotá, Colombia and the Metro Manila, Philippines who wish to volunteer to do post-earthquake structural evaluation have the opportunity to be trained.

As part of its strategy to improve response capacity, the Direction for the Prevention and Attention of Emergencies (DPAE), a coordinating body which is composed of government, private and civil society groups in Bogotá collaborated with the Association of
Disaster Consciousness Month in July conducted by the National Disaster Coordinating Council of the Philippines during the whole month of July.

Volunteers who have undergone the training course are call upon to conduct rapid evaluation of resulting damage, structural integrity and vulnerability of existing buildings and vital structures, to assist in partial demolition of buildings, among others that may require technical skills.

The last case on Kathmandu Valley, Nepal in this chapter concerns schools (Box 3.3). Kathmandu Valley consists of three districts - Kathmandu, Latipur and Baktapur – in the Central Nepali region. Kathmandu Metropolitan

17 United Nations, 2007. Toward a Culture of Prevention: Disaster Risk Reduction Begins at School, UNISDR-UNESCO.
18 http://www.preparenow.org/latino.html.

City is one of the fastest growing urban areas in the world but most new development is unplanned and buildings are built below standard. The ancient city, where old buildings are assessed unable to withstand earth shaking, is congested. Rescue and relief efforts are bound to be difficult in old neighbourhoods to which access is difficult[19]. The School Earthquake Safety Program is an excellent example of the wedding of professional knowledge with practical needs and due to this, awareness of communities is greatly enhanced.

Box 3.1. Bogota, Colombia: Reducing Disaster Risk in Schools

Children are believed to be more open to change, and thus more receptive to disaster preparedness messages. The programme states that "...children are an instrument of change themselves by carrying their knowledge and spreading the messages within their families and communities."

The approach is a two-pronged: the promotion and extension of the city's preparedness and management in schools by which teachers develop a guide specific to their school; and the integration of risk prevention and disasters in the school curriculum. The goal of the strategy is to create awareness and provide tools to act against risk, reduce vulnerability and be prepared during emergencies.

The guide includes information on how to make a School Risk Management Plan. The plan consists of: (1) fundamental concepts, (2) risk scenario construction, (3) instruments for intervention in risk management, i.e. how to reduce, mitigate or avoid risk, (4) the risk management and school plan (protocols), and (5) elaboration and implementation of the plan.

Source: EMI, Manual of Sound Practices, 2007. Management (DRM) Guidelines and Tools, Toronto.

Box 3.2. Preserving Lijiang's Assets after the 1996 Earthquake

Lijiang in Yunnan Province of China is known for its natural and architectural beauty and indigenous culture. Ethnic groups especially the Naxi have kept their many old customs and practices. In the Qing dynasty, among imperial decrees were "forever compliance" protection measures for the environment and religious buildings. Erected by local population at key points in the town are stone tablets that specify measures to protect the watershed from erosion and contamination. It has been designated a UNESCO World Heritage site in 1997 following the magnitude 7.0 earthquake of February 3, 1996. The recovery process has been a challenge particularly because affected were low income families. The city remains to be a vibrant city with rich culture and architecture that attracts both domestic and international tourists.

The earthquake caused significant damage to the old city's houses and lifelines. The World Bank and Lijiang's administration addressed the needs of the affected poor families by providing grants for home repair. A few after the earthquake, the Provincial Construction Commission issued the "Design and Construction Technical Requirements for Houses in Lijiang Prefecture" which were guidelines for homeowners and builders on reinforcing techniques and materials. In compliance with existing ordinances on historic preservation and the Country Master Plan, residents were warned against using non-traditional materials or visibly contemporary building techniques. The guidelines were sent to every household and enterprise in the old city, and disseminated through television and newspapers. The Country Construction Bureau provided guidance and supervision.

Support for housing repair (mainly for purchase of materials) was established through a grant program With World Bank funds. Homeowners did most of the rebuilding themselves. Residents relied on mutual self-help with groups of families organizing themselves to complete repairs on one house to the next. Construction Bureau staff report that the amount of money shelved out by the citizens put into house reconstruction was often five to ten times the amount of the grants. Also, the city government requested US$7 million of the World Bank reconstruction credit support of US$30 million set aside for the repair and rehabilitation of cultural heritage assets that were damaged by the earthquake.

Reference: Ebbe, Katrinka and Donald Henkley, Case Study: Lijiang, China – Earthquake Reconstruction and Heritage Conservation, The International Bank for Reconstruction/The World Bank, 2000.

19 EMI, 2007 "City Profile: Kathmandu Valley" in Manual of Sound Practices, Manila, p. 71.

Box 3.3. School Earthquake Safety Program, Kathmandu Valley, Nepal

Schools have been identified as possible temporary shelters in the aftermath of an earthquake by virtue of their being well-distributed in communities. However, according to an earthquake vulnerability assessment carried out by the National Society of Earthquake Technology (NSET), more than 643 school buildings or 66% of public schools in the three administrative districts of Kathmandu Valley – Bhaktapur, Kathmandu and Latipur – could collapse in the event of a Magnitude 9 earthquake. This vulnerability is largely due to the use of traditional building materials (such as adobe, stone rubble in mud mortar) in school building construction, and improper maintenance of school building facilities.

Designed to address these inadequacies, the School Earthquake Safety Program (SESP) evolved from being a simple school retrofit project to a comprehensive program of earthquake safety involving the entire community. A priority initiative under the Kathmandu Valley Earthquake Risk Management Project (1997-2001), it eventually became one of the most comprehensive programs for risk reduction, preparedness and mitigation in Kathmandu – gaining not only the support of local authorities, but also the interest of neighboring countries.

The SESP involves the conduct of surveys and vulnerability assessments of public school buildings through school headmasters; retrofitting and reconstruction; implementation of a participatory community-based approach to earthquake mitigation; raising of awareness through education on earthquake safety of teachers, school children and parents; empowerment of communities and general improvement of safety and livelihood; and institutionalization of the SESP in local governments.

Source:

HFA-4

Reduce the Underlying Risk Factors

Introduction

Local/city governments can undertake a number of tasks to implement HFA 4. This chapter recommends the following tasks:

Task 12. Environment: Incorporate DRR in environmental management.

Task 13. Social needs: Establish mechanisms for increasing resilience of the poor and the most vulnerable.

Task 14. Physical planning: Establish measures to incorporate disaster risk reduction in urban and land-use planning.

Task 15. Structure: Strengthen mechanisms for improved building safety and protection of critical facilities.

Task 16. Economic development: Stimulate DRR activities in production and service sectors.

Task 17. Financial/economic instruments: Create opportunities for private sector involvement in DRR.

Task 18. Emergency and public safety; disaster recovery: Develop a recovery planning process that incorporates DRR.

Initially, local/city government officials may perceive this Priority for Action rather abstract, especially with the mention of the word "vulnerability." In reality, some of the concrete steps to reduce underlying risk factors are already being done. However, social, economic and planning measures are most likely not risk-sensitive or risk-related factors are taken for granted.

Local/city governments can actively and most effectively avoid and mitigate risks through measures they are mandated to do - land use planning, building code implementation, local economic development, poverty reduction strategies, social welfare (protection), and other such regular functions, plans and programmes. When a mayor fails to recognize the connection between hazards and government functions, plans and programmes, the city is missing great opportunities to make communities resilient. This is because some losses are preventable and often prevention is cost-saving.

> "One lesson that was underscored time and time again...was that it is the development patterns of our communities regardless of size from small town to big city, in which vulnerability to a given potential disaster grows not because of the hazard."
>
> ADPC (2004), Asian Urban Disaster Mitigation Program (AUDMP) - Program Completion Report, ADPC, Bangkok

Alternatively, taking risks into account in planning and day-to-day business can significantly reduce vulnerability. Vulnerability refers to conditions determined by physical, social, economic and environmental factors or processes, which increases the susceptibility of a community to the impact of hazards. Some authors prefer to classify vulnerability into human, built environment and biophysical. Biophysical vulnerability is produced when physical processes and human activity interact as when a flood occurs, industrial accidents happen, or global warming worsens. The level of the biophysical vulnerability is mediated by factors like proximity to the source of threat, topography of the area, or land use practices.

Reducing vulnerability is thus do-able by mainstreaming disaster risk into day-to-day operations, and integrating or incorporating disaster risk into plans and programmes. National governments are expected to provide regulations and guidelines ensuring safety of citizens. These are based on professional codes and standards which in turn are updated as scientific and technological findings provide new knowledge and experiences or empirical evidence show the need for revision or change. Other tools that can help promote risk and vulnerability reduction are private-public partnerships and appropriate financial instruments.

The objective of mainstreaming disaster risk reduction (DRR) is to ensure the integration of risks from natural hazards in development policy formulation, planning and in the design of development programmes and projects. This leads to the identification of appropriate measures to reduce disaster risk and ensure that development undertakings do not worsen existing situations or create new forms of vulnerability.

Stakeholders

Government is involved in all aspects of vulnerability reduction. For the different aspects of vulnerability reduction, the stakeholders are identified as follows:

Incorporating DRR in environmental and natural resource management

- Regulatory and planning agencies, environmental and DRM practitioners, local governments, local institutions, community groups, existing networks like topic specific working groups dealing with climate change or water resources management

Establishing mechanisms for increasing resilience of the poor and the most vulnerable

- Community leaders, workers and volunteers
- Poverty reduction advocates

Incorporating DRR in land use practices and human settlements

- Urban and regional planning regulatory agencies and planning agencies
- Local governments and local institutions
- Representatives of professional organizations, trade organizations, and trade unions

Strengthen mechanisms for securing building safety

- Professional organizations
- Building contractors

Create opportunities for private-sector involvement in DRR

- Business entities and private companies
- Foundations
- Government

Develop a disaster recovery plan

- Utility companies
- Private sector
- Non-governmental organizations
- Community based organizations
- Local government chief executive.

Indicators

In view of the areas outlined in the HFA, Priority for Action 4 has six 'core indicators' on which progress and challenges of implementation are to be monitored and reviewed:

1. Policy, planning, operational interface among disaster risk reduction, environmental management and climate change
2. Linkages between policy, institutional and operational approach to social development and disaster risk management structures and approaches
3. Policy and implementation of DRR as part of economic development.

   Sectors (such as public works, housing, labor and employment, and social welfare) have incorporated disaster risk reduction into the planning processes and executions.
4. Existence of land use planning and effective compliance structures and mechanisms

   Disaster risk reduction elements are included in zoning and land use development plans.
5. Technical construction standards elaborated and implemented

   Mechanisms of applying technical standards are controlled.
6. Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure

   Development planning and implementation are risk-sensitive.
7. Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

   Disaster recovery plan that incorporate lessons from the past are prepared before disasters occur.

These indicators assist in assessing the overall progress toward changing social, economic, environmental conditions, construction and land use at the local/city level to reduce disaster risks. These indicators are aligned with the national HFA monitor and relate to the HFA primary tasks, as they appear in Table 6.1.

Disaster risk reduction is mainstreamed when a budget for the purpose is provided. The budget is not necessarily a separate budget line but incorporated within an existing one. For example, a poverty alleviation programme may include the promotion of a microinsurance scheme that covers damages from disaster. Other activities can be designed in such a way that more risk-sensitive approach methods is adopted such as combining information dissemination with improved enforcement procedures to implement the building standards.

Summary Table for Priority for Action 4

Reduce the Underlying Risk Factors		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-12 **Environment: Incorporate DRR in environmental management**	• Policy, planning, operational interface between among disaster risk reduction, environmental management and climate change	A. Environmental protection, natural resource management and climate change policies include disaster risk reduction
Task-13 **Social needs: Establish mechanisms for increasing resilience of the poor and the most vulnerable**	• Linkages between policy, institutional and operational approach to social development and disaster risk management structures and approaches • Commitment to ensuring health and well being: integration of DRR in health and food policies	B. Specific policies and plans are being implemented to reduce the vulnerability of impoverished groups (Contextual Indicators)

Guiding Questions	Tools
• Have the local/city government and communities adopted sustainable environmental management practices that reduce hazard risk? • Is there local action to effectively prevent unsustainable land uses and resource practices that increase disaster risk or increase vulnerability? • Are indigenous knowledge and appropriate technologies relevant to environmental management applied and preserved? • How well are DRR policies and strategies integrated with adaptation to existing climate variability and future climate change? • How well is disaster reduction integrated in environmental impact assessment (EIA)? • Are there local/city government experts/specialists and extension workers who work with communities on long-term environmental management and renewal? • Are wetlands, mangroves and forests managed to reduce disaster risk? • Are trends in deforestation rates monitored?	• Environmental impact assessment • Reforestation and other environmental mitigation measures
• Are there formal social protection schemes and social safety nets accessible to vulnerable groups at normal times and in times of disasters? • Are external agencies prepared to invest time and resources in building up comprehensive partnerships with local/city groups and organizations for social protection/security and DRR? • Do community members have access to basic social services during and after disasters? • Are vulnerable populations classified and located for social protection and safety net measures? • Do food security initiatives cover disaster-prone areas? • Are there established social information and communication channels? • Are there mutual assistance systems, social networks and support mechanisms that support risk reduction directly through targeted DRR activities or indirectly through other socio-economic activities that reduce vulnerability, including capacity to extend their activities to manage emergencies when these occur? • Are there mutual assistance systems that cooperate with community and other formal structures dedicated to disaster management? • Does hazard insurance cover the sector? • Is there commitment to ensuring food security through market and non-market interventions with appropriate structures and systems? • Are public health structures integrated into disaster planning and prepared for emergencies? • Are government, private sector and civil society organizations engaged in plans for mitigation and management of health and food crises? • Do emergency planning systems provide buffer stocks of food, medicines, etc.?	• Poverty alleviation programme • Vulnerability and capacity assessment • Participatory rapid appraisal • Community-based disaster preparedness/ management approach • Informal settlements policy • Health care delivery system • Food policy

Summary Table for Priority for Action 4

Reduce the Underlying Risk Factors		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-14 **Physical planning: Establish measures to incorporate disaster risk reduction in urban and land-use planning** **Task-15** **Structure: Strengthen mechanisms for Improved building safety and protection of Critical facilities**	• Existence of appropriate codes and standards for buildings and land use planning and effective compliance structures and mechanisms • Risk-sensitive development planning and implementation	C. Land-use development zoning and plans and building codes exist and include disaster risk related elements which are rigorously enforced D. Procedures are in place to assess the disaster risk implications of major infrastructure project proposals
Task-16 **Economic Development: Stimulate DRR activities in production and service sectors** **Task-17** **Financial/economic instruments: Create opportunities for private sector involvement in DRR**	• Policy and implementation of DRR as part of economic development	E. A long-term national programme is in place to protect schools, health facilities and critical infrastructure from common natural hazard events
Task-18 **Disaster recovery: Develop a recovery planning process that incorporates DRR**	• Recovery plan • Use of collaborative instrument and mechanisms to reinforce and sustain mitigation and preparedness measures	F. Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

Guiding Questions	Tools
• Do all public buildings and infrastructure comply with building codes and standards? • Are public and private infrastructure system owners required to carry out hazard and vulnerability assessments? • Are critical public facilities and infrastructure protected through retrofitting and rebuilding, especially those located in high-risk areas? • Are safe locations and sites of relocation identified for facilities in disaster prone areas? • Do regional and urban development plans incorporate appropriate DRR? • Do disaster plans feed into local/city government development and land use planning? • Are there effective inspection and enforcement procedures of building codes and regulations?	• Fire code • Building code • Structural code, standards, and construction practices • Land use planning techniques • Zoning • Development controls, open space planning, designation of hazardous areas • Geographic Information system (GIS) • Retrofitting • Critical facilities strengthening programme • Resettlement/in situ improvement • Risk-sensitive land use planning • Environmental risk impact assessment
• Is DRR treated as an integral part of economic development? • How well are economic development benefits shared throughout society? • Do enterprises have business continuity plans? • Do chambers of commerce and similar business associations support efforts of small enterprises for business continuity during and after disasters? • Are there economic incentives for DRR actions (e.g., reduced insurance premiums for householders, tax holidays for businesses) • Are micro-finance, cash aid, credit (soft loans), loan guarantees, etc. available after disasters to restart livelihood?	• Local economic development plan • Inventory of critical facilities and infrastructure • Risk evaluation • Sector-specific critical facilities plans • Insurance • Reinsurance • Micro-finance • Crop insurance • Cluster approach
• Has a recovery plan been put in place before disasters? • How inclusive and participatory was the process of recovery planning? • How well is DRR taken into account in the recovery plan to reduce future risks? • Are there instruments to formalize collaboration among sectors and stakeholders? • How well do stakeholders coordinate agreed measures? How are these sustained?	• Recovery plan • Legal instruments • Collaborative mechanisms: task force, committee, sectoral work group • Memorandum of agreement, memorandum of understanding

Disaster Recovery Plan

Purpose

A good disaster recovery plan addresses the underlying causes of disasters in the recovery and reconstruction effort. This builds resilience and avoids the reconstruction of risks after disaster events.

Relevance

Disaster recovery planning is an integral part of the process of disaster management and risk reduction. Although specific recovery plans are prepared only after a disaster has struck, preparedness for general recovery can be undertaken in advance. So, preparedness planning needs to be undertaken for response as well as recovery; both need a large amount of coordination. If a community prepares for recovery before a disaster strikes, difficult decisions about reconstruction and mitigation are less subject to the extreme pressures that characterize the aftermath of a disaster.

Among the ten propositions of UN Secretary-General's representative William J. Clinton (Box 6.7) concerning the Indian Ocean tsunami specifically concerns local government. Local/city government should be able to manage recovery efforts. Planning for disaster recovery at the local or city-level is a must.

How to do it

The community led by the local/city government should develop a recovery plan through a process that aims to reduce future risk. The work group may develop the recovery plan in a consultative manner, as outlined in Words Into Action. The local/city disaster risk reduction process steps can be followed in order to lead towards generic recovery plan. An analysis of strengths and weaknesses of the organizations responsible for responding to emergency situations, managing recovery and reducing losses will provide very useful input to this process.

Recovery issues should be dealt with together with suitable stakeholders. For instance, it has been the experience that housing rehabilitation/reconstruction is a key element in closing the gap between emergency relief and sustainable recovery (Box 6.8). Local/city government needs to involve internal and external stakeholders to understand planning and implementation issues. Regulatory and legal issues, too, may need to be examined. Resettlement of dislocated families is a location-specific issue which is simpler to handle have there been no impediments on resettlement sites but good practice dictates that minimum requirements of safety need to be met. This safety requirement may be recognized, but authorities are challenged by disaster-affected people who are likely to return to the site of their damaged houses. When the plan is done, representatives of relevant organizations adopt it by signing the final generic plan. The recovery plan is published and its major principles are promoted. It is important that the recovery plan is revisited especially after a disaster so that lessons learned can be incorporated.

Summing Up

Skilled people that can contribute substantially to the recovery plan development should comprise the team. They come from finance, planning, infrastructure sectors, NGOs, construction industry, and corporate sectors. Recovery is best integrated into disaster preparedness activities through

- Accurate risk assessments and development of likely disaster scenarios
- Participation of authorities from different levels, with executive authority for planning and implementing post-disaster recovery and reconstruction plans.
- Focus on the participatory aspect of the planning process rather than the resulting plan, which will foster the buy-in necessary for effective plan implementation.
- Ability to involve finance and budgeting authorities to earmark resources upfront for disaster recovery.

Environmental Impact Assessment (EIA)

Purpose

Environmental impact assessment (EIA) is a tool for mitigating the negative impacts of development projects. It can also be used as an instrument for reducing disaster risk from development projects and unsustainable natural resource use while protecting the environment.

Relevance

Local/city governments and communities have opportunities to be heard in what are often interpreted as national level processes and mechanisms like environmental impact assessment (EIA). Development projects affect the immediate surroundings where these will be located. Therefore local/city governments and communities are encouraged to get in contact with project proponents and relevant development partners. EIA was adopted by many governments in the 1970s in order to anticipate socio-economic and environmental impacts of development projects and mitigate them before the projects are begun. National development agencies and international financial institutions have processes to institutionalize EIA. In an EIA, it would be necessary to determine the feasibility the location of the project including whether the areas was environmentally critical. It would also ascertain whether the project itself is environmentally critical. To integrate DRR, the EIA must include risk assessment and provide alternatives. An open consultation and communication process is the mark of a true EIA process. The process presents opportunities to dialogue about and propose how to handle risk and safety concerns.

How to do it

The local/city government or the local/city focal point forms a task force to deal with environmental concerns that link closely with increase in disaster risks. The task force should consist of representatives of: the environmental agency in the region, environmental NGOs, experts on reducing risks, community organizations, women's organizations, and other groups which are directly associated with broad environmental issues such as climate change, biodiversity and desertification. (Note: The local/city focal point may consist of sub-group or a local body formed under Local Agenda 21, Healthy Cities or Habitat Agenda. The task can be made part of an existing team which deals with any of disaster-relevant environmental concern such as impacts due to climate change. Thus, a multisectoral preparedness team task force that will conduct a study and formulate recommendations will strengthen coordination among local/city government departments, businesses, community members and other stakeholders.)
The task force has the following options. (a) Create an action plan or strategy document to collaborate environmental and DRR activities and programmes. Areas that overlap are identified in order to utilize the opportunity for synergy. Such areas could include, for instance, programmes to prevent drought, desertification, flood and for the protection of freshwater resources, coastal reefs, wetlands, dryland and forest ecosystems. (b) Establish links with regional and national entities which work on allied areas particularly those which are covered by international agreements such as conventions on biodiversity, climate change and desertificati on as well as the HFA, especially where these environmental issues are essential for the sustainable development in the city/town. (c) Facilitate the establishment of networks and consultative bodies which in turn carries out assessments that integrate DRR and environmental protection parameters. Local/city government makes available experts and extension workers to work with communities on long-term environmental management and renewal.

Summing Up

The environment is the life-support system for people. Unfortunately, resources (land, forests, water) that the environment offers are exploited by people without knowing the harm they do have significant consequences on lives, especially in terms of making slopes unstable, riversides more flood-prone, river's capacity to channel less water, and many other such threats and hazards. Thus, the tool involves the collaboration between agencies or groups dealing with disaster risk reduction and the environment. Local/city decision makers and leaders needs to support this collaboration. The task force must be well-informed, knowledgeable about environmental/natural resource management programmes and government obligations in these areas, as well as about regulation and its implementation in various sectors. Through the task force, networks and consultative bodies can be engaged in a sustained manner to deal with environmental concerns. The environmental profile must be updated annually.

Financial/Economic Instruments; Private Sector Involvement in Disaster Risk Reduction

Purpose

To increase private sector participation in disaster risk reduction, appropriate fiscal policy mechanisms and innovative instruments should be adopted.

Relevance

Private-public partnerships can take other forms apart from resource sharing. Government can promote financial/economic policy risk transfer and insurance, micro-finance and microcredit scheme for businesses in general, including small self-employment businesses.

The private sector gains from government's predictability in the risk-related policies that have direct impact on business operations, including consistent and equitable enforcement of regulations. Predictability may also be achieved through, for example, providing long-term licences to operate, based on mutually agreed conditions. Conditions could include, for instance, business commitments to contribute to disaster risk reduction activities with direct benefits to the communities. Private sector participates in risk reduction and also generate much needed investment for risk prevention and mitigation activities should they avail of such instruments.

How to do it

Local/city government and private sector can both support financial mitigation measures targeted at vulnerable and at-risk communities (Box 6.6). The private sector may be engaged depending on country-specific conditions. A round-table meeting between government officials and representatives from the private sector will help to identify areas of mutual interest for joint disaster risk reduction activities. Local/city government provides support by facilitating information exchange and dialogue on the options available to the private sector. If the local/city government has a department promoting business and industry, its involvement in disaster risk reduction activities is a must.

To develop a round-table meeting:

1. Prepare by reviewing existing partnerships with the private sector.
2. Identify the major risks facing corporate interests in the country. Identify which risks might be better dealt with through risk avoidance practices, mitigation or risk transfer mechanisms.
3. Convene a meeting with private sector representatives.
4. Discuss areas of common interest, seeking to identify types of joint projects that could accommodate both constraints and opportunities for private and public partners, allowing them to combine resources for disaster reduction
5. Engage the business leadership skills, the professional abilities and the resources in development practices that reduce risks for communities and companies.

Economic incentives for DRR actions may also be introduced by the local/city government. Among these incentives are: reduced insurance premiums for householder, tax holidays for business, etc.

Summing Up

The private sector, including federations and chambers of commerce and industry, business associations and industry associations can be active partners in order to make the city/town a more secure place to live. To be able for private sector to do its part, top-level government support is crucial.

Poverty Reduction Programme/Strategy

Purpose

A poverty reduction programme/strategy (also called poverty alleviation programme/strategy) is government's tool to lessen the degree of poverty and enhance its impact on the poor. Through social capital, empowerment and livelihood protection, a poverty reduction programme/strategy can take into account the conditions of the poor and the vulnerable that make them most likely to be impacted by disasters. Thus, the programme/strategy must help increase the resilience of the poor to disasters.

Relevance

Local/city governments face the issue of being able to attend to the needs of a range of people of different ages, health condition, gender, race, ethnicity, income, and education; some citizens have physical disability. The vulnerable includes the aged, the physically challenged, children, widows, and the poor. In the face of hazard threats, dealing with the social challenge takes on a different dimension as their requirements during disaster relief and response, and then recovery are reflected upon.

In developing countries, migration to cities have taken place at a fast pace. Availability of jobs and more opportunities attracted people from rural areas to move to urbanized areas. Often, rural migrants do not have land tenure rights, i.e. the land on which they built houses is not their own. Development pressures have pushed many poor people to live in vulnerable places like river banks and steep slopes too. Thus, such communities have been called squatter settlements. There are also the homeless who live in makeshift tents or sleep in the streets. Some may be paying rent on a lot where their dwelling place is built.

Safety nets especially are important to consider so the vulnerable have a fallback position; asset enhancement, livelihoods diversification, a safe built environment, social protection and empowerment through participation in governance are desirable. Assistance for those who may get impoverished directly as a result of a disaster event must be at hand. These will all in all strengthen the communities' resilience to disaster.

How to do it

The basic premise is that disaster risk reduction is integrated into the poverty reduction programme. The programme shall include measures and actions intended to assist the poor and protect their livelihoods especially during and after disasters.

1. Local/city government should adopt formal social protection schemes and social safety nets accessible to vulnerable groups at normal times and in response to emergencies.

2. In order to reach the poor, local offices in charge of collecting and storing data should improve data quality by correlating population characteristics such as age, disabilities, social disparities and gender to high-risk environments.

3. Local offices concerned with social services like health and social welfare should work with community leaders, women's groups and workers in undertaking participatory risk assessment and reduction actions.

4. Local/city government should link with national government agencies to be acquainted with provisions to address disaster risk reduction for the poor in the context of the country's Poverty Reduction Strategy Papers (PRSPs) as each country seeks to achieve the Millennium Development Goals. Similarly, it should familiarize itself with similar provisions in the context of Common Country Assessment/United Nations Development Assistance Framework (CCA/UNDAF), in partnership with bilateral and multilateral aid agencies.

5. Local/city government should explore linkages with national agencies regarding work-for-food and seed allocations to provide relief for farmers and labourers.

One concrete programme to help the poor and vulnerable is to help them regain a means of livelihood. After disasters, a financing institution may make available micro-finance, cash aid, credit (soft loans), loan guarantees, social funds, microcredit, microinsurance, rainfall insurance, savings, and catastrophe bonds, etc. to restart livelihood. Some national governments and NGOs have such programmes to which local/city government may link. Local/city government can assist in identifying who may qualify for such programme. Local NGOs may assist families form community/group savings and credit schemes and/or access to micro-finance services prior to any hazard event.

Summing Up

The impact of the national poverty alleviation strategy and programmes are best felt at the local/city level. It is only reasonable and wise to link disaster risk reduction with poverty alleviation and other social protection activities at local/city level implementation. The vulnerable are affected most by disasters and should get attention from local/city government which is the closest branch of government to the people.

Promoting Building Safety and Protection of Critical Facilities

Purpose

Securing the safety of houses and other buildings, and protecting critical facilities and infrastructure goes beyond building, structural and fire codes and standards. The updating of codes and standards plays an important role in reducing loss of life and livelihoods but does have implications on recovery costs. Steps need to be undertaken to deal with non-engineered buildings as well as to strengthen mechanisms to enforce codes and standards.

Relevance

Critical facilities and infrastructure such as hospitals, emergency centres, schools, communications systems and transportation routes, shelter facilities and government services buildings are important particularly during the post-disaster phase. One important consideration is the prompt resumption of essential services and lifelines, such as power, sanitation, water and access to basic government functions. This matter has necessitated redundant systems in anticipation of worse case scenarios.

How to do it

• Building safety

1. Public works department staff/officers should be up to date about the building code regulations and procedures to evaluate new building construction.

2. Upgrade staff capacity through training and participation in professional associations

3. Institute a consultation process with construction industries, including professional societies, to develop a shared agenda to improve construction codes, establish minimum professional standards of practice and meet industry training needs.

4. Develop a strategy to provide legal liability to negligent practice, and options for legal recourse to recover damages.

5. Undertake an education campaign for home owners, potential home buyers, building contractors, and the informal construction sector to increase awareness about minimum safety provisions.

6. Develop strategies in order to minimize or stop illegal/illicit construction and renovate or retrofit unsafe buildings; relocate from unsafe to safe areas

• Protection of critical facilities

1. Local/city government should develop an inventory of critical facilities.

2. Regularly maintain hazard control structures within its jurisdiction.

3. Analyse the risks to these critical facilities using the results of risk assessments, and if necessary conduct additional surveys and studies. Identify vulnerable locations for priority action.

4. Undertake a study to understand options for and the costs of reducing the vulnerability of key facilities.

5. Develop sector-specific critical facility plans and programmes for ensuring life, safety and continuity of services in case of a hazard event. These plans and programmes should deal with hospitals and health care facilities, communications networks, water and sanitation systems, energy transportation, etc.

6. Partner with utility companies and industry owners to develop a programme to reduce vulnerability in the sectors.

7. Use the results from activities above to develop a long-term strategy and programme to accomplish critical facility strengthening.

Summing Up

Through monitoring of construction and education of builders, contractors, homeowners, potential home buyers and informal construction workers, codes and standards may be more strictly followed. The state of affairs can be improved with commitment from local/city government and firm resolve with residents to make the city/town safer.

Risk-Sensitive Urban and Land-Use Planning

Purpose

Land-use planning is a planning tool that can be more risk-sensitive in order to include disaster risk reduction (DRR) measures in spatial and physical development.

Relevance

Land use determines a large part of vulnerability. The level of vulnerability of people, structures, and activities depends on the place where they are located. Logically, planning can offer a solution in this predicament through land use planning. Zoning is an important means to implement land use planning. Land uses may basically be residential, industrial, commercial, agricultural, institutional; more detailed land use classification may vary from country to country though.

Through a land use classification, locating industries, for example, is based on a rationale which provides advantages for an industrial facility to be located in a particular site. Risk-sensitive land use planning calls attention to the possible risks to which the particular site may be exposed. Thus, locating the facility on an earthquake fault will be avoided and damage will be prevented.

How to do it

Some urban planners have been practicing disaster risk reduction without much awareness about risk-sensitive land use planning before the HFA. Some land-use planning and human settlements development measures and practices were not known to many as such.

Local/city government then should review its practices concerning land-use planning from the standpoint of DRR. It should work with national, regional, and provincial planning agencies to assess the extent to which hazard and vulnerability parameters are incorporated in planning processes. Apart from practices, local capacities to understand, implement and enforce development planning and land-use programmes, plans and regulations need to be assessed as well.

Local/city officials and planning officers must be familiar with the risk and hazard characteristics of the territory of which they are given authority to administer.

Options appropriate to each city/town can be explored. Among these are implementing and enforcing land-use regulations, enacting measures to reduce informal urban settlements, proper siting of critical facilities and infrastructures, putting a premium on inbuilt spaces and creating networks of open spaces (such as public parks, greenbelts and green corridors), creation of interconnected network of open spaces, zoning hazardous areas and imposing stricter development controls in these areas. Geographic information system (GIS) has been used by some planners for some time. The challenge is how DRR is properly integrated in the regular planning tasks using technologies like GIS. Training in these areas should be provided especially to planning officers.

Local/city government needs to strive to make zoning and urban planning process participatory. Thus, planners should use public involvement strategies, including education and information dissemination, to increase the awareness of residents and to gather support for land- use decision making based on disaster risk parameters. They should also be more transparent about the hazard profile of the town or city. Local/city government needs to be ready how to inform property owners and business prospectors about site characteristics, and offer options concerning DRR.

Summing Up

Prevention of disasters is possible through risk-sensitive land use planning and management of human settlements. This should also be borne in mind when disaster-affected families need to be resettled in order that new vulnerabilities are not created. Compliance with zoning and other laws has always been a problem. A massive campaign to inform and educate people on how land-use planning contributes to safer towns and cities, among others will contribute to achieving the goal.

Sectoral Sub-Work Groups to Stimulate DRR Activities in Production and Service Sectors

Purpose

Disaster risk reduction (DRR) activities in specific sectors, through the development of sectoral work groups that focus on reducing vulnerabilities and improving resilience, will stimulate disaster risk reduction.

Relevance

The different sectors of the local economy must be protected from the ill effects of disasters. Considering the economic and social cost of recovery, the value of each of the key production and service sectors must be considered not only in terms of the output but the employment they generate. These include a range of sectors: agriculture, fisheries, mining, forestry, tourism, transportation, water supply, energy, food processing, construction, manufacturing, commerce, finance, health, sanitation, information technology. Risks inherent to the sector need to be factored in as disaster risk reduction strategies are formulated. Often, the issues are not well understood. Not clearly identifying the issues can jeopardize finding solutions particularly those relevant to DRR.

How to do it

Forming a sub-work group for a particular priority sector is highly recommended. The local/city government may create a sectoral working group on the basis of existing governmental or industry planning mechanisms for the sector. It should incorporate relevant stakeholders in addition to those already represented in the sector's planning and finance systems, and usually would be led or coordinated by the relevant lead ministry or department for the sector.

A sectoral sub-work group undertakes the following activities:

1. Promote discussions in the sector on the available formal or informal sectoral planning and finance systems, links to DRR, and the channels for their implementation.

2. Explore how existing mechanisms for municipal/city planning and investment programming can be used to incorporate DRR. Consider such factors as criteria for resource allocation, regional development plans, sectoral plans, budgets and technological practices.

3. Study and apply guidelines that pertain to sectoral plans for DRR that are usually established at the national level. These guidelines include disaster profiles, policies and strategies; needed capacities; and resources and programmes. Adapt the guidelines to the specific needs of the city or town.

4. See to it that chambers of commerce and similar business associations support resilience efforts of small enterprises.

5. Ensure that business continuity plans of private sector and organizations are in synch with preparedness plans.

Summing Up

The value of working together among economic sectors in a regular fashion in order to be prepared for disasters cannot be overemphasized. Their involvement in disaster planning is a must. They are resources for cities and towns, and can be involved as part of commitment to corporate responsibility especially to the communities located around the premises.

Local/City Level Functions

It is important to recognize mandates of government authorities as well as the roles and responsibilities of different stakeholders. Clarity of roles and responsibilities increases

accountability. Defining roles and responsibilities is best formalized through legally binding instruments such as ordinances. An ordinance may cover areas like carrying out community-based disaster risk management, preparedness planning, risk-sensitive land use planning and zoning, among others related to mitigation and preparedness. Other areas of concern where consistency in the laws and regulations is desired include:

Environment
- Ensuring compliance with environmental laws
- Ensuring that planning for climate change is being done
- Managing water resources wisely
- Managing coastal resources wisely
- Managing ecosystems wisely

Economic development/production and service sector
- Sustaining socio-economic development
- Integrating risk reduction in poverty alleviation programmes
- Ensuring risk-sensitive tourism development and management

Physical planning
- Applying risk-sensitive land use planning and zoning
- Maintaining harbours and airports
- Protecting critical facilities and infrastructure

Financial/economic instruments
- Guaranteeing fiscal responsibility and risk management
- Protecting capital investments

Emergency and public safety; disaster recovery
- Ensuring safe and reliable public services
- Ensuring public health and safety
- Ensuring timely emergency response.

The goal is to make disaster risk reduction an integral part of normal practice in day-to-day affairs, i.e. to fully institutionalize DRR within the relief and development agenda of every office or agency. Recognizing this goal, the Asian Disaster Preparedness Centre (ADPC) has been undertaking mainstreaming of various sectors in relevant ministries and agencies in selected Asian countries as a major project after the signing of HFA. The project includes the development of guidelines on how to mainstream DRM in particular sectors such as housing, education, and public works.

The institutional constraints of local authorities of some countries must also be acknowledged. It is also useful to recognize how stakeholders' capacities can complement based on the principle of subsidiarity. What people can do needs to be recognized; they should be allowed to do what they can do.

Mainstreaming and institutionalization are achieved when the disaster management plan is made an integral part of the development plan. Thus, the planning process ensures that budget is allocated for development programmes and projects that take potential disaster risks into account. In the case of local level risk management in India, community based disaster preparedness (CBDP) is institutionalized by treating disaster plans as integral part of the government's development agenda (Box 7.2). Mainstreaming also makes certain that development programmes and projects do not increase disaster vulnerability in all sectors. A mainstreaming challenge is making certain that all disaster relief and rehabilitation programmes and projects are designed to contribute to development aims and to reduce future disaster risk.

Tackling the Underlying Factors of Vulnerability

Interventions or initiatives by government and other stakeholders on the seven sectors enumerated above typically should address the underlying factors of environmental, physical, economic and social vulnerability. To this list may be added other themes or concerns to explicitly recognize the uncertainty of impacts such as those of climate change, man-made interventions, and some instruments. It is only fitting to include them among criteria by which performance of local/city governments and communities in this Priority for Action may be gauged.

Environment and Natural Resources

The use of natural resources such as forest, land, and water has been often abused by exploitative ventures by man. National laws to protect and manage these resources are often in place but are not easy to implement. The role of local/city governments in natural resource management have often been relegated to the background. They and the communities they serve come to the picture only after a devastating landslide or flood occurs in a poorly forested watershed. The decline and degradation of forests, mangroves, mountain slopes, hydrological capacity of rivers, and other natural

attributes of communities have led to precarious conditions that lead to severe disaster impacts. Tsunamis and storm surges can wreak havoc on coasts that once had protective mangroves. A related problem is illegal logging.

After severe landslides and floods burying several villages in three towns and rendering farmlands useless during a series of heavy rains in Quezon Province, Philippines in 2004, national government, local government, community organizations, and NGOs organized a multipartite team in August 2008. The community was alerted of illegal logging that continued in the surrounding Sierra Madre mountains despite the disaster. Since deforestation was traced as the main cause, the team was formed as watchdog group to check illegal logging.

The Philippine Department of Environment and Natural Resources authorizes watchdog groups to arrest suspected illegal loggers. From past experiences, the success of such initiative depends on eliminating intervention by politicians and influential families. In many areas of the country, local politics constrains efforts to produce lasting solutions to environmental problems. That disaster risk reduction, environmental management and socio-economic development are intrinsically linked seemed not to have been understood by politicians. These are all connected as they all are part of managing the ecosystem. Part of managing the environment is the application of tools to screen development projects and mitigate predicted negative impacts.

Environmental impact assessment (EIA) is policy tool adopted by national governments which obligates development proponents to identify negative impacts of a project and the needed mitigation measures. The EIA process has built-in feedback mechanisms. In high-risk areas, disaster risk assessment may also be carried out, i.e., disaster risks can be taken into account at each stage of the project cycle. It is most important to participate in the early part of the EIA process called scoping. Scoping allows local government and communities to participate in multi-stakeholder meetings with the proponents. Once the environmental impact statement is released, any stakeholder may submit comments on perceived risks, matters that will adversely affect his/her community (social, economic, and environmental impacts) and what might be done to mitigate impacts. Impacts of a development project during and after construction are most likely felt locally; it is expected that stakeholders take an active interest and act when needed for their own safety and well-being.

Climate Change Adaptation and Mitigation[20]

The impacts of climate change have been observed in changing weather patterns and extreme weather conditions such as super typhoons/hurricanes, heat waves, drought, and more frequent El Niño events. There are threats induced by global warming that may not have been observed before in a region and where no experience in dealing with such impacts exists. Climate induced spatial and temporal changes can mean the spread of climate sensitive diseases, the appearance of invasive species, or shifts in agricultural cropping patterns. This can significantly affect socio-economic development of poor towns and cities. Many of the changes can be anticipated and thus planned for. Also, a multi-hazard approach in research, monitoring, and planning yields advantages, as certain efforts may apply not just to a single hazard.

Precautionary measures such as mitigating the increasing levels of greenhouse gas (GHG) emissions can reduce the long-term risk of negative consequences (Box 6.1).

Social needs (social protection). Mechanisms for increasing disaster resilience of the poor and most vulnerable are needed in terms of ensuring basic needs for survival are accessible. Help to the poor may be provided through housing (shelter), food, clothing, healthcare and

Box 4.1. Climate Change Mitigation — Forestry and Urban Greenery

There is growing acceptance that the environmental benefits of forests extend beyond the traditional ecological and include the mitigation of climate change as carbon sinks. Interest in forestry mitigation activities has led to the inclusion of forestry practices at the project level in most recent city planning activities.

Singapore. With a dedicated program focusing on urban forestry, Singapore has a natural forest with a bounty of unique flora and fauna. Over the years, Singapore has increased the forest area by acquiring adjoining land. The city has also carried out ecologically sensitive aforestation. Introducing eco-tourism has the multi-benefit of making the forest accessible to citizens, promoting goodwill among the people, and demonstrating the importance of maintaining and improving the forest. Singapore also has a robust social forestry program in which all major roads are provided with green medians and, if possible, green corridors. The distributed greenery ensures that the roads have high CO2 absorption capacity in close range of the emission source. The road-side greenery aids in reducing the heat island effect.

Source: World Bank/GFDRR/ISDR, 2008. Climate Resilience Cities: A Primer on Reducing Vulnerabilities to Change Impacts and Strengthening Disaster Risk Management in East Asian Cities, IBRD/WB, 2008.

20 Disaster mitigation activities include environmental management and urban and land use planning measures. The climate change community would term these activities adaptation, and these would represent only one type of adaptation, namely reactive adaptation. For climate change specialists, mitigation is broader and more comprehensive; specifically, it is reducing the sources or enhancing the sinks of greenhouse gases (United Nations, 2006. On Better Terms – Consultation Version, Geneva).

economic livelihood. Poverty alleviation schemes are focused on these but may not necessarily prepare the vulnerable to disaster events. First and foremost, local/city government must identify and prioritize the most vulnerable communities, and understand their needs. Microfinance is one way to reduce vulnerability of the poor against external shocks. Microfinance (and microinsurance) refer to "programmes extending small loans and other financial services such as savings, to very poor people for self-employment projects that generate income, allowing them to care for themselves and their families," according to the Microcredit Summit Campaign. Rather than the poor relying on governments and donors, postdisaster sources of finance may be made available through microfinance institutions, though this strategy may have limited scope for entire risk-sharing communities[21]. See Box 6.2.

Economic Sectors (Economic Protection)

The local economy of each town or city depends upon a key productive sector or the production of key economic goods that generate income. The production system likewise depends on resources, technology, land, utilities, the ecosystem and institutions. Lifeline utilities such as communication, energy, transport, water, are wastewater systems are important components of the economy. Interdependencies among the lifeline utilities must be understood before disaster strikes. Sectors that work well with their stakeholders are likely to more disaster resilient when forward planning is undertaken. The local/city government can facilitate the formation of sectoral work groups for production and service sectors which will focus on reducing vulnerability and improving resilience. Engineering lifeline groups are formed at local level in New Zealand as utilities acknowledge the need

Box 4.2. Working Women's Forum (WWF), India

"The community organization Working Women's Forum (WWF) was founded in 1978 with the purpose of empowering women in southern India. Currently, it has more than 570,000 members organized into neighbourhood groups of 8 to 10 people. The WWF's main service is offering microcredit, and since 1983 it has also been offering health, life, accident, and property microinsurance to its microcredit clients. Disasters are insured in the property scheme, under which cover for 1,000 rupees is provided for damages due to natural disasters in exchange for an (undefined) percentage of the microcredit. While the client base is relatively small for a scheme that was implemented in 1983, it has a substantial geographic spread. Insurance is provided by an Indian insurer (ILO, 2005c). Although no direct external assistance is provided, under Indian regulatory requirements, the partner insurer may support the scheme through cross-subsidies from its other more profitable lines of business." (Source: Mechler and Linnerooth-Bayer, 2006).

The WWF has been included in the 2008 Best Practices Database in Improving the Living Environment in the areas of Poverty Reduction, Economic Development, Gender Equality and Social Inclusion.

- The Reproductive Healthcare program of WWF focuses on healthcare needs of the poor woman, her choices regarding reproductive rights, number of children, contraceptive choices.
- WWF believes in caring for the family and adoption of orphans of HIV/AIDS victims. In WWF AIDS victims are provided micro-finance to generate income, occupational self-reliance preventing isolation.
- In the recent tsunami disaster, Forum helped 2000 fisherwomen families through relief and rehabilitation measure impacting Rs.11.75 million towards infrastructural and other measures. Source:

Source: http://www.unhabitat.org/bestpractices/2008/mainview04.asp?BPID=2055

Box 4.3. Engineering Lifeline Groups in New Zealand

New Zealand has, over the last twelve years, developed significant lifeline engineering projects that address risk reduction for critical infrastructure. Following developments in the U.S.A., the New Zealand Centre for Advanced Engineering initiated a lifeline engineering project in the Wellington area. Wellington, the capital, is particularly exposed to earthquake, slope stability, and coastal hazards and risks. The Wellington project piloted, for New Zealand, the establishment of hazard reviews across all lifeline sectors, the formation of sectoral work groups, the establishment of an Engineering Lifeline Group, and the expenditure of significant funds to improve lifeline resilience. Following the Wellington successes, additional lifeline engineering groups have been initiated across most of New Zealand. All involve public and private lifeline utility operators. The Lifeline Engineering Projects have resulted in a number of improvements to infrastructure, including:

- Strengthening transport infrastructure, such as motorway bridges;
- Increasing resilience of energy infrastructure, including electricity, gas and fuel oils;
- Improving the resilience of bulk water supplies, including reducing risks by decommissioning reservoir dams now known to be built across active faults
- Improving the resilience across sectors by strengthening road bridges that carry services additional to road traffic, such as water, power, gas, and telecommunications.

Source: Government of New Zealand, 2008. Interim National Progress Report on the Implementation of the Hyogo Framework for Action, 2007-2009 (http://www.preventionweb.net/files/7503_NewZealand.pdf).

21 Mechler, R. and J. Linnerooth-Bayer with D. Peppiatt, 2006. Disaster Insurance for the Poor? ProVention-IIASA.

to coordinate lifeline engineering during the response and recovery phases. The significance of lifeline groups (Box 6.3) is also recognized by its law, the Civil Defence Emergency Management Act 2002. All projects of the lifeline groups are recognized and integrated within the structure and planning of the regional, district, and city Civil Defence Emergency Management Group.

Urban and Land-Use Planning

Whereas land use planning is recognized as a logical way to incorporate disaster risk reduction into broad development planning and physical planning, much has to be done in terms of making it work in developing countries. Zoning as a major tool of land use planning is within the mandate of city governments to use in order to plan and implement risk-sensitive land use. Overlaying risk and vulnerability maps on GIS base maps also allow a number of possibilities in order to make communities safer through land use planning.

Oftentimes, it takes political will to put into action those planning concepts to work and indeed, a win-win situation can still happen (Box 4.4). There are other ways and means by which local government can effect a safer built-up environment. At the tactical (project) level, among these are land subdivision regulations, development standards/guidelines, tax/development incentives and zoning regulations. At the strategic or policy level, plans can range from neighbourhood and redevelopment plans to comprehensive, general and land use plans, depending on the spatial scale. Eventually the disaster management plan will also be part of the overall local government strategy.

In Metro Manila, focus groups were formed after the second stakeholder workshop (as part of the DRMMP process, Box 1.4) to undertake action plans in five thematic areas, namely: risk communication and awareness, land use planning, training assessment/capacity enhancement, resource mobilization, NGOs and professional organizations, and legal and institutional arrangements. Joint undertakings by the land use planning focus group have been promoting mainstreaming of disaster risk reduction in planning. The land use planning focus group is a pool of 25 people who were purposely selected. Participating are planners from the local and national government; they include scientists from the science and technology agencies, the academe, civil society and the UNDP country office. The monthly meeting has about 10-13 participants each time. Through this mechanism, programme planning and decision making are expected to improve as capacity among participating organizations is built. For instance, the participants have provided useful insights towards the development of a training course in risk-sensitive land-use planning. The group is also part of the routine evaluation of the overall programme called Crosscutting Capacity Development Programme which the scientific and engineering NGO, Earthquakes and Megacities Initiative (EMI) is doing in collaboration with local and national institutions. The members have become mainstreaming champions for DRR in the organizations where they are affiliated[22].

Building Safety (Construction)

In February 28, 2001, an earthquake measuring 6.8 on the moment magnitude scale (MMS) shook Seattle, Washington State, U.S.; the only recorded death was of one person who suffered from heart attack. In State of Gujarat, India, an earthquake of magnitude 7.6-8.1 on the same scale claimed over 10,000 lives about a month before. From these two experiences, one may draw a conclusion that agrees with what many earthquake specialists say: “Earthquakes do not kill people; unsafe

Box 4.4. Marikina City: Squatter-Free Settlements

Squatting remains a major problem in highly urbanized areas throughout the Philippines. This is true in the case in the City of Marikina, one of the 17 municipalities and cities that comprise Metro Manila. (Note: Squatter settlements are known to contribute to flood due to obstruction to stream flow and solid waste accumulation in waterways, thus reducing drainage capacity.) In order to address this situation, the city government launched a settlements programme for the so-called informal settlers in 1992. Squatter colonies were identified through a citywide registration and continuing census programme, while an inventory of possible resettlement areas through the city was undertaken.

The Marikina Settlements Office was established to oversee the implementation of the programme, and in 1993, some 23,000 squatter settlements had been identified. Families that have already been living in the city for some 20 years were made automatically beneficiaries of the programme. Armed with the perspective that the problem of housing is the land and not the house, the city government set about an in-city resettlement project that distributed 24-sq m lots to every family-beneficiary.

Programme guidelines were likewise established that, among other things, gave slum dwellers the choice to stay in their present residences, and ensured that their new residences would be better than their present community (which includes the provision of roads, drainage, water, and power). While residents were required to pay for the land given them, an instalment-based, long-term payment scheme was put in place.

To ensure the immediate implementation of the project, particularly in the issue of land management, the city legislative council was co-opted to work on the declaration of settlement sites and priority development areas, through the issuance of relevant ordinances.

Source: EMI, undated. Megacities Disaster Risk Management Sound Practices.

22 Earthquakes and Megacities Initiative (EMI), Mainstreaming Disaster Risk Reduction through Land Use Planning and Enhancing Risk Management Practices, Earthquakes and Megacities Initiative, Quezon City, 2006.

Box 4.5. Dealing with Non-Engineered Buildings

"...the current thinking is that building codes and by-laws and their enforcement works best in the Asian context at the high end of the construction industry. However, the vast majority of construction takes place in the informal sector of mid-rise buildings to individual houses that are done in structurally unsound ways due to the lack of knowledge regarding structurally sound construction of modern buildings. The AUDMP (Asian Urban Disaster Mitigation Programme) programmes illustrated and underscored the need to bring into force simple, user friendly, non-engineered construction practices for use by the community and construction artisans. The programme also demonstrated ways to transfer technical 'know-how' using hands-on 'show-how' techniques in Nepal and Indonesia for seismically safe construction and in Vietnam for flood and wind resistant construction."

Source: ADPC, 2004. Asian Urban Disaster Mitigation Program - Program Completion Report, ADPC, Bangkok.

buildings do." Since several deaths after a strong earthquake in the same state occurred in 1953, not much was done to build safer buildings. On the other hand, Seattle has a record of safe building construction through strict enforcement of the Building Code. There is a need to strengthen local mechanisms for improved building safety.

Despite new advances in construction technology, the reality of the situation is that prices really dictate decisions regarding the type of house that a low-income household will build. Most buildings in the developing world are non-engineered. Simple construction techniques will persist and more houses using such techniques will be built in our settlements (Box 4.5). Nevertheless, it may be appropriate for the local authority to develop a programme to discourage illicit/informal construction in cities and towns. The local authority can initiate programmes aimed at relocation of informal settlements from vulnerable areas, controlling the fate of unsafe buildings, renewal and redevelopment of blighted areas, and upgrading within the city (Box 4.4).

Financial/economic Instruments; Public-Private Partnership

In terms of financial resources for disaster risk reduction, the local/city government has the option to use its own budget and/or work together with partners. Local/city officials tend to use government funds and disaster (or calamity) funds for relief and response. However, using the city/municipal budgets for prevention (mitigation) of disaster risks (Box 6.6) needs to be explored.
Local/city governments should also use create or use opportunities to involve the private sector involvement in disaster risk reduction. Public-private partnership (PPP) has been defined as "a cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through appropriate allocation of resources, risks and rewards (ADB, 2007)[23]." Resources and capabilities of each partner can be harnessed in order to improve relief, recovery, and other phases of disaster. Local governments located in contiguous zones may enter into a mutual aid agreement to formalize the type of support or resources that may be expected or shared by each. The Makati Fire

Box 4.6. Financial Options for Local Government

Strategic use of municipal funds for mitigation. By virtue of the Local Government Code of 1991, the local government of Guagua, Philippines plays a significant role in overseeing and facilitation of the planning and implementation of small infrastructure projects. This includes the construction of secondary dikes and sandbagging activities on breached river systems. It was also able to integrate disaster management into the overall socioeconomic municipal development plans. There is now a regular allocation of funds for disaster management at the community level.

Source: Shaw, R. and K. Okazaki, 2004. Sustainable Community Based Disaster Management (CBDM) Practices in Asia – A User's Guide, UNCRD Disaster Management Planning Hyogo Office, Kobe.

Public-private partnership in fire mitigation. Makati Fire Safety Foundation, Inc. (MAFSAFI) is a partnership between the government of Makati City and the private sector. The partnership has contributed to the decline in the incidence of fires in Makati for the last two years. Dealing with the threat of fire is important for this city which is the business capital of the Philippines; it is home to many high-rise buildings for office and commercial uses. The number of fires in Makati went down from 244 in 2003 to 134 in 2005.

Its advocacy for safety is done by: conducting periodic fire safety inspections jointly with the Office of the City Fire Marshall in all Makati City establishments, and implementing fire safety education and fire prevention programmes. It has been instrumental in the drafting and passage of Makati City Ordinance No. 96-188 which requires all owners, leases and operators of businesses in the city to secure Public Legal Liability Insurance. The foundation recognizes private companies who have taken concrete steps to promote fire safety. Every year, the foundation confers the Makati Fire Safety Compliance Awards to buildings that have complied with fire safety regulations contained in the Fire Code and in the Building Code.

Reference: http://www.cityriskpedia.com.

23 Asian Development Bank (ADB), A review of emergency preparedness in Asia and the Pacific, Small Group Workshop on Preparing for Large-scale Emergencies, 5-6 July 2007, Manila.

Safety Foundation, Inc. is a good example of how local government partners with the private government to mitigate fire risks.

Disaster risk reduction becomes an even more attractive commitment when corporate social responsibility and business interests match. The private sector involvement in disaster risk reduction takes the following forms:

- Donations and grants, in cash or in kind (goods, services, facilities) to other organizations and groups
- working in disaster reduction or directly to beneficiaries
- Providing facilities, technical skills or volunteers either free of charge (pro bono) or at subsidized rates
- Work in committees and sharing know-how in discussion groups
- Business continuity/recovery as a basis for local-level mitigation
- Collective initiatives through NGO creation (e.g., the Corporate Network for Disaster Response, Philippines – an alliance of companies which started off mainly as central command centre for disaster relief work but has shifted to mitigation and preparedness such as strengthening local disaster coordination mechanisms).

Recovery Planning

As past experiences have shown, addressing the underlying causes of disasters is essential to recovery and reconstruction. Thus, in the area of post- disaster reconstruction, "Build back better" is the motto. It is even better to make disaster recovery planning a part of local disaster risk management and disaster risk reduction. The recovery plan should address issues of rehabilitation of infrastructure and critical facilities, employment and livelihoods, housing, and resettlement of displaced families.

The Indian Ocean tsunami of 24 December 2004 has provided important lessons for local, national and international stakeholders (Box 6.7). Because of the large geographic scope of the impact (affecting mainly five Asian countries), large number of casualties (many of them children and the elderly) and timing, the response to assist was great; money for relief and rehabilitation poured in. There was "proliferation" of organizations which came to assist. Humanitarian relief effort was almost completed in three (3) months without outbreak of epidemics or cases of malnutrition.

The transition to recovery via reconstruction and rehabilitation was a great challenge. Impacted countries were characterized by weak governance, while international and local donors lacked preparedness, according to studies[24].

Looking at local impacts, Aceh province in Indonesia was affected greatly with the economic disaster impact being almost equivalent to its entire gross domestic product. Local administrative capacity was also handicapped; the mayor of the capital city was among the victims. Projects are of broad range: rehabilitating roads, bridges, wharfs and lifelines; revitalizing basic services (particularly education and health care), construction of new dwelling units, livelihood projects, micro-credit, and skills training.

It is important to build upon lessons from previous disasters. Shelter is an area which is of direct concern to citizens, and therefore must be of prime interest to local governments (Box 6.8). Resettlement and land use are bound to be important issues, and therefore local governments need to prepare.

In conclusion, underlying causes of economic, social and physical vulnerability can be dealt with using already existing tools and mechanisms. Users of these tools and mechanisms are however required to consciously incorporate disaster risk reduction. Among these are:

- Environmental impact assessment
- Poverty reduction programme/strategy
- Risk-sensitive land use planning; development plans
- Promoting building safety and protection of critical

Box 4.7. Ten Propositions: Key Lessons from the Indian Ocean Tsunami Recovery Effort

(1) Governments, donors, and aid agencies must recognize that families and communities drive their own recovery.

(2) Recovery must promote fairness and equity.

(3) Governments must enhance preparedness for future disasters.

(4) Local governments must be empowered to manage recovery efforts, and donors must devote greater resources to strengthening government recovery institutions, especially at the local level.

(5) Good recovery planning and effective coordination depend on good information.

(6) The UN, World Bank, and other multilateral agencies must clarify their roles and relationships, especially in addressing the early stage of a recovery process.

(7) The expanding role of NGOs and the Red Cross/ Red Crescent Movement carries greater responsibilities for quality in recovery efforts.

(8) From the start of recovery operations, governments and aid agencies must create the conditions for entrepreneurs to flourish.

(9) Beneficiaries deserve the kind of agency partnerships that move beyond rivalry and unhealthy competition.

(10) Good recovery must leave communities safer by reducing risks and building resilience

Source: Clinton, W., 2006. Key Propositions for Building Back Better, United Nations New York.

24 ADB, 2007. Lessons from ADB's Indian Ocean Tsunami Experience. Small Group Workshop on Preparing for Large-Scale Emergencies, 5-6 July, Manila.

facilities; Codes, Standards and Practices
• Sectoral work groups to stimulate DRR activities in production and service sectors
• Financial/economic instruments
• Recovery planning.

In the facing the demands of vulnerability reduction, the local government must have capacity to:

• Assist community members in the area of hazard mitigation
• Provide technical experts for mitigation of hazards; e.g. engineers trained in hazard safer construction, flood mitigation engineers, land use planners, environment and forestry experts and agricultural experts
• Develop technical skills of community experts; e.g. training of masons on safer construction, capacity building of farmers on drought mitigation, training of community health workers on medical aid during and post-disaster

Mainstreaming

Disaster risk reduction must be dealt with not as an add-on but instead practiced normally in day-to-day affairs, and imbedded in the overall development framework at different levels, especially at the local level. Apart from the Level of skills and capacity of key stakeholders, it therefore requires that an appropriate level of budget be allocated for disaster risk reduction.

This HFA approach seeks to integrate disaster risk reduction into normal development processes; this integration is also commonly referred to as mainstreaming. Where no such development process exists, efforts to mainstream disaster risk reduction in its normal functions and departments should be a priority of local government; in so doing, socio-economic development is enhanced and development gains are not jeopardized by disasters.

No attempt is made to create a separate development planning process; instead, a way in which disaster risk reduction may become part of day-to-day processes and long-term planning is introduced. A typical way to accomplish this step is to prepare a plan to guide stakeholders in terms of dealing with disaster and risks associated with them. Plans to deal with disaster risks are of different types depending on the main purpose. For example, South Africa and Afghanistan have disaster management plans; villages in India have village disaster management plans. With mitigation measures strongly advocated, calling the plan a disaster risk management plan or disaster risk reduction plan is an option. In other cases, the conventional plan is oriented towards disaster or emergency preparedness plan (see p. 120). In whatever type of plan, generating the plan require multi-stakeholder participation.

Prior to the International Strategy for Disaster Reduction (ISDR), the UNDP used the term disaster preparedness planning to denote a combination of elements, which are similar to so-called disaster risk management plans. Within disaster preparedness planning are a clear description of relevant legal and institutional framework, risk analysis profiles, standby arrangements, disaster contingency/response plans, a public information and media communication strategy, among others. Contingency planning undertaken done under an enabling environment essentially covers the above elements of disaster preparedness planning in operational terms - policies, objectives, procedures, responsibilities, and resources. Contingency plans address more specific hazard events or scenarios, for example for a large earthquake, a drought covering a large region, or a tsunami.

A disaster planning process may be juxtaposed in the current planning system. Now that gaps are recognized, the essence of such process is to see where improvement can be done. This is bound to mean introducing changes in how current local government departments are run. This disaster planning process shall identify planning areas relevant to making disaster resilient communities and safer towns/cities.

Box 4.8. Housing Sector: Learning from Disaster Recovery

Building houses and restoring shattered infrastructure is the dominant problem and the main demand on finance in most disaster recovery operations. Therefore, it is essential to devise ways to reduce the financial burden and maximise the involvement of the surviving communities in managing their own recovery. One way to save precious resources is to extend the life of initial shelter in its varied forms and accelerate the building of permanent dwellings.

Source: IRP, 2007. Learning from Disaster Recovery – Guidance for Decision Makers – Executive Summary (http://www.recoveryplatform.org/BookProjectSummary/ENG/BOOK2_ENG_Jan2007.pdf).

HFA-5

Strengthening Disaster Preparedness for Effective Response and Recovery: Being Prepared

Introduction

Local/city governments can undertake a number of tasks to implement HFA 5. This chapter recommends the following tasks:

Task 19. Review disaster preparedness capacities and mechanisms, and develop a common understanding
Task 20. Strengthen planning and programming for disaster preparedness.

The earlier four chapters dealt with the basic foundations to reach an effective level of preparedness, with the ability to define and carry out preparedness and contingency plans. Strengthened institutional structure, capacities and approved legislation frameworks including resource allocation are the basis of multi-stakeholder preparedness measures and responsibilities. Risk identification including hazard monitoring, vulnerability analysis and early warning systems helps trigger mechanisms for preparedness and contingency planning. Public awareness, knowledge development and communications systems facilitate the understanding and ability to apply preparedness and contingency plans. The identification of additional and underlying risk factors contributes to refining preparedness and contingency measures and plans.

While disaster preparedness plans, contingency plans, early warning systems, and evacuation procedures are necessarily a task for government and communities, citizens and local authorities are reminded that guidance from national disaster authorities must be heeded. It is however equally important for communities to communicate their experiences to authorities and other external stakeholders in order to add new knowledge. By doing so, procedures and guidelines may likewise be updated and adapted to circumstances peculiar to location- or disaster-specific conditions.

Elements of effective disaster preparedness planning are described in an earlier chapter. To appreciate the scope of disaster preparedness, it is useful to review these elements not only in terms of how to deal with emergencies and crisis situations, but more importantly, with a perspective to reduce disaster risk.

Stakeholders

As one goes through the elements of effective disaster preparedness planning, one realizes that there is a task for everyone – individual, household, firm, government agency, local/city government, non-governmental organization, or organized entity. They are like parts of a machine which will not work properly without each part in place. It is therefore important for stakeholders to participate. It is also important to consider ways and means to develop common understanding and activities in support of disaster preparedness through dialogue processes. Because of the multi-stakeholder nature of preparedness, it is very useful to have a communication facilitator. Disaster reduction managers and disaster response managers need to be involved in formulating preparedness and contingency plans at various levels, mobilizing resources and responding to emergencies. Both are part of the dialogue process.

Private companies, business firms, utility firms or any organization in government and non-government sector need a business continuity plan. Business continuity planning (BCP) is the creation and validation of a practiced logistical plan on how an organization will recover and restore partially or completely interrupted critical functions within a predetermined time after a disaster.

Considering the number of stakeholder groups in a city or town, it is worthwhile to do a stakeholder analysis. Stakeholder analysis is a strategic planning and management tool that aims to identify the stakeholders that are likely to be affected by the activities and outcomes of a project or plan, and to assess how those stakeholders are likely to be impacted. It determines who can be depended on to collaborate and who may not be easy to involve, and finally how best stakeholders may participate can be explored.

It is difficult to go by the usual definition of internal and external stakeholders in the field of disaster risk reduction. (The usual definition is based on the fact whether the stakeholder is within the project organization or the project, or external to it.) At the local/city level, a geographical interpretation, however is useful. Therefore, generally, the stakeholders at the local/city level may be classified as shown below.

Internal Stakeholders

- Government officials (including local/city chief executive such as mayor and governor)
- Politicians
- City or municipal officers
- Regional development officers
- Village heads and councilmen
- Community organizations: women's groups, youth groups, neighbourhood organizations
- School teachers
- Health facility/hospital officers and staff members
- Operators of power utility, water supply, gas supply
- Local business entities
- Professional organizations and their respective chapters
- Citizens/community members (in different age groups – employed, unemployed; aged; children; physically or mentally challenged
- Local media (newspapers, radio/TV broadcast).

External Stakeholders

- International organizations
- Inter-Agency Standing Committee (IASC)
- National government – government sectors
- Private and non-governmental organizations based elsewhere.
- It is worthwhile to do a mapping of stakeholders with the goal of developing cooperation between the stakeholders and the planning team, specifically the work group (as referred to in the succeeding paragraphs).

Indicators

In view of the areas outlined in the HFA, Priority for Action 5 has four 'core indicators' on which progress and challenges on implementation are to be monitored and reviewed. Some indicators can be broken further into sub-component indicators.

1. Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place
   - Policy: Disaster risk reduction incorporated into the design and implementation of emergency, response, recovery and rehabilitation processes
   - Technical: All organizations, personnel and volunteers in the preparedness system possess the required technical capacity to carry out essential elements and tasks for effective disaster response
   - Institutional: Independent assessment of disaster preparedness capacities and mechanisms has undertaken and responsibility for implementation of recommendations assigned and resourced

2. Disaster preparedness plans and contingency plans are in place at all administrative levels
   - Disaster plans and programmes are common practices in disaster prone areas
   - Regular training drills and rehearsals are held to test and develop disaster response programmes

3. Financial reserves and contingency mechanisms are in place to support effective response and recovery when required

4. Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews

These indicators assist in assessing progress toward strengthening disaster preparedness for effective response in terms of capacity and resources. These indicators are aligned with the national HFA monitor and relate to the HFA primary tasks, as they appear in Table 7.1. Apart from capacity and resources, the indicators above are to be met by a combination of policies, mechanisms, plans, and procedures.

This chapter focuses on four output-oriented tools - capacity assessment, disaster preparedness plans, contingency planning, and the cluster approach. It is on the basis of a good understanding of capacities and gaps that effective plans and supporting programmes can be designed. The results of capacity assessment also provide the rationale for the allocation of funds. The desired outcomes of these are not only better prepared communities and local/city government units but also risk reducing impacts on the surrounding towns/cities. One cannot stress enough how vital the processes are while these tools are implemented. It is clear how important the roles of networks for preparedness and coordinating mechanisms are in making processes work. Contingency planning and the cluster approach further reinforce the network and accompanying mechanism.

Summary Table for Priority for Action 5

Building a Culture of Safety and Resilience		
HFA Tasks	**Local Indicators**	**National HFA Monitor Indicators**
Task-19 **Review disaster preparedness capacities and mechanisms**	• Strong policy, technical and institutional capacities and mechanisms for disaster risk management at the local/city level	A. An independent assessment of disaster preparedness capacities and mechanisms has been undertaken and the responsibility for implementation of its recommendations have been assigned and resourced
Task-20 **Strengthen planning and programming for disaster preparedness**	• Disaster preparedness plans and contingency plans are in place at the local/city and community levels, and regular training drills and rehearsals are held to test and develop local/city Disaster response programmes. • Integration with emergency response and recovery • Procedures are in place to exchange relevant information during hazard events and disasters and to undertake post-event reviews. • Local/city government and community have capacity to deal with disaster recovery. • The role of communities and volunteers is recognized while principles of accountability of local/city government and other stakeholders are adopted.	B. Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response Programmes (Contextual Indicators) C. Financial reserves and contingency mechanisms are in place to support effective response and recovery when required D. Procedures are in place to document experience during hazard events and disasters and to undertake post-event reviews E. All organizations, personnel and volunteers responsible for maintaining preparedness are equipped and trained for effective disaster preparedness and response

Guiding Questions	Tools
• Is local/city disaster planning an indispensable part of national preparedness and response system? • Are roles and mandates for the different sectors and stakeholders defined and agreed? Are these based on co-ordination and not command-and-control approach? • Are emergency planning and response responsibilities and capacities delegated to the local/city level? • Are civil and defense organizations, NGOs and volunteer networks capable of responding to events in an effective and timely manner, in accordance with agree plans of co-ordination with local and community organizations? • Do the community organizations have the capacity to provide effective and timely emergency response activities? • Are emergency supplies (buffer stocks) in place? • Are emergency shelters available? • Are safe evacuation routes identified and maintained? Are they known to community members?	• Disaster plan • Recovery plan • Networks for preparedness • SAR equipment
• Does a contingency plan or a community disaster plan exist for all major risks? • Are plans co-ordinated with official emergency plan? • Are disaster/contingency plans developed through participatory methods, and understood and supported by community members? • Are plans tested regularly through community drills or simulation exercises? • Are plans reviewed and updated regularly by relevant stakeholders? • Are resources available to support necessary actions identified by community-level plans? • Are there policy, planning and operational linkages between emergency management, DRR and development structures? • Is risk reduction incorporated into official post-disaster reconstruction plans and actions? • Can emergency contingency funds and stocks be made available quickly to those in needs, with established procedures for releasing them? • Is there an inventory of government relief and recovery resources? • Are information on resources and how to obtain them made available to at-risk and disaster-impacted communities? • Can local/city-level actions be supported by higher-level emergency services with structure, capacity, facilities and procedures through information networks and exchange procedures? • Are communications infrastructure and access routes for emergency services and relief workers secure? • Are two-way communications systems designed to function during disasters? • Are there mechanisms for disaster-affected people to express their views, for learning and sharing lessons from events? • Are official continuity and recovery plans in place or can be capably developed by local authorities supported by appropriate systems and capacities? • Are roles and responsibilities during recovery defined? Is there an agreed coordination arrangement among internal and external stakeholders, including availability of resources (human, institutional, materials, financial) for long-term reconstruction and recovery? • Are there support programmes for livelihood-focused recovery (e.g., cash for work, replacement of productive assets, emergency loans, start-up capital)? • Does the capacity to restore critical systems and infrastructure exist? Can agreed procedures for action be undertaken? • Are there community psycho-social support and counselling mechanisms during and after disasters? • Is DRR mainstreamed into relevant organizations' recovery planning and practice? • Are stakeholders able to participate in all components of disaster planning and operations? • Have the local/city government and stakeholders adopted internationally accepted principles of rights and accountability in disaster response and recovery? • Are organized volunteer groups integrated into community, urban and regional planning structures?	• Disaster preparedness plan • Contingency plan • Drills and simulation runs • Early warning system and devices • Evacuation procedures • SOPs • Relief funds • Support for agriculture and livestock losses • Funds for recovery • Fiscal policy measures • Damage and needs assessment (DANA) • Matrix of on-going initiatives, programmes, and plans • Reconstruction needs assessment

Tools

Disaster Preparedness Planning and Programming

Purpose

A disaster preparedness plan is tool for strategizing pre-disaster activities that are undertaken within the context of disaster risk management and are based on sound risk analysis. It includes measures to help at-risk communities safeguard lives and assets by being alert to hazards and by taking appropriate action prior to a threat or actual disaster. Together with supporting programmes, it includes means to improve, as necessary, existing plans for disaster response/contingency, recovery and reconstruction. For these reasons, the plan may also be called disaster risk reduction plan.

Relevance

Communities and their local/city governments need to be guided by a plan wherein input from multiple stakeholders has been received. If done in an inclusive participatory manner, a plan will facilitate better coordination and management; it provides the opportunity to allocate resources more efficiently and placed where they are needed most.

With a disaster risk management framework, the disaster planning process also allows for alignment of disaster plans with those of the development planning process, and thus the integration of disaster risk reduction into local/urban development.

How to do it

While communities should have local/ preparedness plans, it cannot be overemphasized that a country should have its politically supported/approved and clearly articulated national disaster preparedness plan in place and disseminated to all levels. Local/city preparedness plans are then form part of the national disaster preparedness plans. By this is meant that all plans state a consistent message as all relevant policies, procedures, roles, responsibilities and funding are established.

Disaster preparedness planning has not been easy to pursue in localities where no major disasters have occurred to merit immediate attention. Countries that have experienced disasters with severe impacts have lessons to teach. Some efforts to reduce further losses have been the result of professionals and field workers who have put their heads together and with some funding to put disaster risk reduction processes and mechanisms in place. To a certain extent, these efforts are work-in-progress. Neither can it be said that 'one-size-fits-all' is possible.
Two cases illustrate the manner in which cities and towns may develop plans related to disaster risk reduction: a project in Indonesia and a programme in India. In both experiences, technical assistance was provided through the United Nations system upon agreement with the country governments. They provide two options that can be appreciated in terms of the prevailing conditions when the activities were undertaken. Dynamics between the local and national levels of government play a significant role too. It should be noted that Indonesia is a republic while India has a federal form of government.

The reader's attention is drawn to the experience of two Indonesian provinces (Box 7.1) where an earthquake struck on 27 May 2006 in the formulation of local action plans for disaster risk reduction (for related account, see Box 1.3). Some villages and towns are known to be exposed to the eruptions of Merapi volcano. However, the earthquake, a rapid-onset hazard as it is, has not been experienced by most residents. The second case on India (Box 7.2) covers several places in 17 states considered vulnerable to different hazards.

Summing Up

At the local/city level, disaster management agencies or systems and local/city governments are at the forefront of developing and updating disaster preparedness plans. It is important that the mayor and other local/city officials take special interest in the effort, which needs executive and organizational support, and the associated human and financial resources. With the local/city government together with community representatives involved, a strong sense of ownership of the planning process by those responsible for executing the plans would further facilitate the task. The basics are the same: clarity of functions, authority and division of responsibilities among key organisations; good coordination mechanisms between local/city and national authorities, between internal and external actors, and within and among sectors; an understanding of the capabilities and resources of public and private organizations based on the results of capacity assessment.

Capacity Assessment of Disaster Preparedness and Mechanisms

Purpose

Capacity assessment[25] of disaster preparedness and mechanisms aims to review existing mechanisms, procedures, capacities, standby systems, materials and equipment for effective disaster response. Thus, communication and coordination systems at every level should also be considered. Second, it aims to review the current status of disaster preparedness as it affects disaster risk reduction in post-disaster recovery and reconstruction strategies

Relevance

Under the United Nations Disaster Assessment and Coordination (UNDAC) system, a multi-disciplinary team is deployed by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) to go on short-term mission (up to three to four weeks) to do research, site visits and interviews based on a terms of reference agreed with the country's government. Based on their findings and applying principles of disaster management, they submit recommendations to the government and other stakeholders; often cost considerations are taken into account in the team's recommendations. As the team conducts field visits to disaster sites, these recommendations also include those concerning local/city-level issues and national-local coordination mechanism. Governments benefit from UNDAC missions as they stay current with development of disaster response methodology worldwide.

How to do it

For local/city-level assessments, the situation needs to be evaluated in terms of basic preparedness elements in Table 7.1. CADRI lists 20 capacity assessment tools relevant to disaster preparedness but none of them is meant to assess local/city government. A few of them involve local communities as NGOs and donors jointly work together (http://ocha.unog.ch/). A local/city team which will essentially make a documented inventory of capacities may follow the following exercise:

1. Determine the scope of the review (choose topics from the checklist items per area of preparedness in Summary Table for HFA 5).

2. Gather information from documentary sources

3. Interview government officials and other key stakeholders, including disaster researchers, organizations and experts with gender expertise.

4. Review past disaster experiences and lessons learned, as revealed in documented studies and reports.

5. Identify strong and weak aspects of existing capacity for critical functions such as management of information, communication, command and control, coordination, and delivery of medical and other life protecting services.

6. Identify improvements to be made, opportunities for learning and strengthening existing systems, and collaboration with international, regional, national and local/city entities.

7. Prepare a report with specific recommendations to fill the gaps and improve capacities at all levels.
8. Disseminate the report widely.

Summing Up

The review must have the organizational support and that of the local/city chief executive. Human and financial resources are committed to conduct the assessment. To further facilitate the task, a multi-organizational team with specialists that is committed to a participatory self-assessment process should be engaged. The team should have access to emergency plans and procedures, resource and equipment inventories, and training records. Past disaster experiences and lessons learned in research studies and reports should also be reviewed.

25 The UNDP defines capacity assessment as "an analysis of desired future capacities against current capacities. This assessment "generates an understanding of capacity assets and needs, which in turn leads to the formulation of capacity development response strategies."

Capacity Assessment

The United Nations Development Programme (UNDP) defines capacity as "the ability of individuals to perform functions, solve problems, and set and achieve objectives in a sustainable manner." "An analysis of desired future capacities against current capacities" that "generates an understanding of capacity assets and needs, which in turn leads to the formulation of capacity development" is called capacity assessment.

A useful tool to make a self-assessment has been developed by the Inter-Agency Standing Committee (IASC) for the national level. The self-assessment tool for Natural Disaster Response Preparedness is adapted for local/city-level as shown in Summary Table for HFA 5. A checklist is provided to assess the level of disaster response preparedness in ten areas, according to minimum international standards.

In the next section, disaster preparedness planning is discussed. It tackles the matter of resources – financial, human, organizational, materials/equipment. Collaborative planning provides the mechanism for allocating these resources, finding ways to generate them, and using them at the appropriate time and place.

Box 5.1. Local Action Plan for Disaster Risk Reduction (LAP-DRR) in Yogyakarta Province, Indonesia

The Indonesian Parliament passed a new law on disaster management in 2007 in response to the need for an institutional and legal framework following the Indian Ocean tsunami of December 2004. However, a call for follow-up action to further strengthen disaster risk management in provinces and districts was also recognized especially after the earthquake. This presented an opportunity for localization. It was recognized as a first attempt to implement the HFA down to the local/city level in the country.

The objectives of the project were: (1) to ensure that DRR is a local priority by building local capacity through the development and implementation of local action plan for disaster risk reduction (LAP-DRR); (2) to establish a mechanism to support the development and implementation of LAP-DRR while strengthening cooperation and coordination at the district /city and provincial levels, and (3) to generate lessons learned from the experience to be shared with partners in other regions.

Earthquake-affected districts and their respective provinces comprise the project area. Prior to the project, another joint project between the Government of Indonesia and UNDP in three districts and the two provinces called Early Recovery Assistance (ERA) Project has been in progress.

The recommended participatory process based on the experience is presented in the chapter on the first HFA Priority for Action. Based on the experience, flexibility ruled over a rigid project timelines. The district-level process took longer than expected because of the provincial regulatory framework with accompanying regulations emanating from the new law has not been made. The provincial-level process has been more successful partly because of the support from provincial planning agencies. Local governments 'waited' until it became clear that they are required to develop LAPs. Also, in January 2008

The two provinces differed in terms of the level of stakeholder participation. Initiative to formulate LAP in Yogyakarta was undertaken by multiple stakeholders. In Central Java province, the provincial planning agencies eventually provided leadership although other representatives from other sectors were also invited. Based on the experience of the two provincial-level processes, guidelines for formulating LAP-DRR were developed. District-level LAP-DRR process included a series of orientations to different stakeholders: on DRR (including the HFA), Indonesia's National Action Plan of DRR, and national regulations relevant to DRR. Following the orientation, working groups comprised of different sectors were established.

Flexibility applied to district-level plans. In Banjul district, its mid-term development plan was reviewed in a series of multi-stakeholder workshops. The objective was to find ways in integrating DRR into the development plan. In Boyolali district, the LAP-DRR process was straightforward wherein a separate plan was made. It is however interesting to note that Bantul district government requested for technical assistance over the next three years to prepare 'a more systematic' LAP. The final report sent to ISDR also noted the large amount of work load for the ERA and this project's staff. Activities such as 'mapping of stakeholders' (stakeholder analysis) and collecting lessons learned have either been stopped or delayed because the projects have only a few staff members.

Reference: UNDP, Final Report to UNISDR Support to Early Recovery Assistance for Central Java and Yogyakarta Programmes, Jakarta, 6 June 2008.

Disaster Preparedness Planning

Two cases illustrate the manner in which town/cities may develop disaster preparedness plans with a disaster risk reduction framework: a project in Indonesia and a programme in India. In both experiences, technical assistance was provided through the United Nations system upon agreement with the country governments. They provide two options that can be appreciated in terms of the prevailing conditions when the activities were undertaken.

A choice can be made once the context is established. Dynamics between the local/city and national levels of government play a significant role too. The form of government may matter; it should be noted that Indonesia is a republic while India has a federal form of government. First, the reader's attention is drawn to the experience of two Indonesian provinces (Box 5.1) where an earthquake struck on 27 May 2006 in the formulation of local action plans for disaster risk reduction (see chapter on HFA-1). Some villages and towns are known to be exposed to the eruptions of Merapi volcano. However, the earthquake, a rapid-onset hazard as it is, has not been experienced by most residents. The second case on India (Box 5.2) covers several places in 17 states considered vulnerable to different hazards.

In summary, the two cases show contrasts that are reflected in a typical development process. The process has tendency either to lead towards being top-down or bottom-up. The Indonesian case appears to show that local government is predisposed to what national government has to say. This creates a hindrance because any meaningful action may be delayed until guidelines and regulations are handed down from 'higher' authority. It is also noted that project staff has too much to handle which forces them to stop doing some essential steps such as conducting a stakeholder analysis.

In the Indian case, one notes that the community is immediately at the centre of the planning process. The community facilitates gathering of information and is therefore a resource. What often matters is how things are done. They differ in how things are done, but what are common to both cases are listed here.

- Planning and capacity building are mutually reinforcing.
- A core group should be given the task to take charge of formulating the plan.
- Smaller or sectoral work groups or task forces help accomplish areas of preparedness.
- An enabling environment consists of a clear DRR policy and technical support.
- The basis for any action is learning about the community and the stakeholders.
- Starting simple to improve preparedness is always an option.
- Budgeting DRR activities as part of a development programme or plan is essential to mainstreaming.

The Indonesian final report to ISDR points out that trust-building is essential in facilitating multi-stakeholder groups as they possess varying interests, backgrounds, practices, and levels of understanding about issues and policies. The geographic unit for which a disaster plan is formulated should also be seriously considered as project costs rise with the logistics and magnitude of preparation involved. Gender sensitivity is worth noting in the Indian report as women are specifically involved.

Box 5.2. Community-based Disaster Preparedness Plan (CBDP) in 17 Selected States, India

A multi-donor funded programme called the Disaster Risk Management Programme was implemented in 169 most hazard-prone districts in 17 selected states in India between 2002 and 2007. The objectives were: capacity building to institutionalize systems for DRM in the government; awareness generation and education programme; multi-hazard preparedness and mitigation plans for DRM at state, district, block, village and ward levels; and networking knowledge on effective approaches, methods and tools for DRM, developing and promoting policy frameworks at state and national levels.

Communities are the first responders, therefore the process starts at community level. The process has a strong capacity building approach for the community members, using participatory rapid appraisal methods and multi-stakeholder dialogue through sensitization meetings. As capacity is built among organized teams, dialogue among members leads to problem identification and resolution. Communities are encouraged to start simple. The CBDP plan preparation process consists of:

(1) Awareness campaign. This is necessary "to support the community in preparation of the disaster management plan." Key village persons are met to motivate community members to carry forward the process. The campaign may combine different kinds of means such as rallies; street plays; competition in schools; distribution of information, education and communication (IEC) materials; wall paintings on do's and don'ts for hazards.

(2) Training of Gram Panchayat/block members. The Gram Pachayat, the intermediary administrative unit between block and village level. The block though has a good linkage with the upper level of administration. Functionaries to perform duties in the disaster management committees from these levels in supervising and guiding the community through the CBDP process in the villages. The trainers are district-level officers.

(3) Identification of village volunteers and training. The process develops a cadre of trained people from the community to carry out disaster-related initiatives. At least two persons from each village are trained as disaster management volunteers; they provide support to the development of the village or community disaster management plan. The village volunteers who come from local youth clubs, women's self-help groups, or CBOs in the village, are selected by local government representatives, block functionaries and CBOs.

(4) Training of Panchayat Raj institution (PRI) members. The three-tier system of Panchayat Raj (people's representatives) has laid down representatives of elected local government officials at various levels. To ensure that disaster risk reduction is mainstreamed in development programming, PRI members are oriented by master trainers how to be involved in vulnerability reduction and truly work together with the trained volunteers and the rest of the community.

(5) Sensitization meeting at village/community level. Local government representatives, trained volunteers, local NGOs and other DRR champions collaborate to organize sensitization meetings. Village sensitization meetings are the venue for agreeing what issues to deal with and how. However, the community's level of readiness to do a disaster preparedness/mitigation plan and implement it will determine what activities might be undertaken.

(6) Specialized training of disaster management teams (DMTs). Village disaster management teams (DMTs) composed of volunteer men and women are formed to outline coordinated response during emergencies. Each volunteer belongs to a task force dedicated to a particular sector and thus specialized training is provided in order to carry out his/her task well. The sectors include search and rescue, early warning, shelter management, medical and first aid, water sanitation, carcass removal, counselling, damage assessment, and relief and coordination. DMTs are linked with existing government service providers for continuous training.

(7) Women participation in CBDP. Women are given equal opportunity to participate particularly in the areas of shelter management, search and rescue, medical and first aid, water and sanitation DMTs. Specialized training is provided to women needed in their tasks. When forming DMTs and disaster management committees (DMCs), efforts are made to ensure that women comprise 30 percent of the membership in order to improve local-level planning and response process.

(8) The programme has succeeded in institutionalizing the CBDP process. Essentially, the disaster plans become an integral part of the government's development programme. Capacity building activities is constantly carried out in order to sustain this mainstreaming.

Reference: Government of India, Local Level Risk Management: Indian Experience (http://www.undp.org.in).

Contingency Planning

Contingency planning is part of good disaster preparedness. Its goal is to ensure adequate preparation for specific foreseen events defined by disaster scenarios. It is not for the long-term unlike a disaster preparedness plan. Contingency planning maybe seen as a stage before the emergency phase, i.e., when observables signs or an extraordinarily big threat (high consequence or high impact) present the need for it. Therefore, there may be a need to formulate a contingency plan for:

- Natural hazards such as typhoons, volcanic eruptions, floods, El Niño and La Niña phenomena, earthquakes, tsunamis, landslides, and lahar/mud flows
- Sudden increase of displaced population
- Sudden shortages of funding, food or commodities
- Outbreak of epidemic or serious health threat
- Planned events with a large number of people like festivals, concerts, etc.

The contingency planning process consists of three stages:

(1) Conduct of consensus-building / advocacy meetings with policy making groups of local/city government such as the mayor and the local/city legislative body

(2) Generating commitments of partners from different stakeholder groups

(3) Contingency planning formulation proper.

The steps in formulating a contingency plan in the Philippines are found in Box 5.3. A contingency planning formulation workshop may be called by the chief of the local/city focal organization. Like any disaster preparedness planning process, all key agencies and stakeholder groups involved should collaborate, meet regularly and review the plan periodically. For a city of 18.5 million and land area of 1,479 sq m., Mexico City took on the great challenge of contingency planning, as authorities put DRR as a local priority (Box 5.4). The impact of the Magnitude 8.1 earthquake that hit Mexico City at 7:19 a.m. in 1985 was a great urban disaster that caused 4,287 deaths according to official reports, but unofficial sources estimate more than 10,000 deaths[26]. About 30,000 buildings had to be demolished then.

Cluster Approach

In disaster risk management, humanitarian response is a critical part in the post-disaster period. Over the last few years, humanitarian workers and development professionals began a dialogue that resulted in a tool for improving the effectiveness of humanitarian response called the cluster approach. An international network called Inter-Agency Standing Committee (IASC) adopted the cluster approach as a mechanism that can help address gaps in response and enhance the quality of humanitarian action. A central element is strengthening the partnerships among NGOs, international organizations, the International Red Cross and Red Crescent Movement and the UN agencies.

With a system of cluster leads, leadership is made predictable in nine key areas of response, namely: water and sanitation; nutrition; logistics; protection; camp coordination; and camp management; shelter; health; early recovery; and telecommunications. Cluster leads will be responsible for ensuring that activities are carried out in collaboration with partners, and will act as "provider of last resort." After experiences in conflict areas such as Afghanistan and a few African countries, as well as disaster-affected areas in Yogyakarta, Indonesia to name just a few, many lessons learned have been documented. A key element here is the role of local/city government to conduct ranging from needs assessment to post-disaster analysis. It is important that partners have commonly agreed objectives but also a common approach with standardized planning tools. Communities should voice their concerns. In the Philippines, the national government adopted a policy of clearly defining leadership roles among government cluster leads, while adopting the cluster approach. The government cluster leads are expected to craft cluster operational strategies covering phases before, during and after disasters. Members of disaster coordinating councils at the local/city and regional level are being trained in order to diffuse the cluster approach to the different administrative levels.

26 Mexico City Reconstruction after the 1985 Earthquake, http://emi.pdc.org/soundpractices/Mexico_City/SP2_Mx_1985_Reconstruction_Process.pdf

Decentralization is here defined as the transfer of responsibility for planning, management, and resource raising and allocation from the central/national government and its agencies to (a) field units of central government ministries or agencies (b) subordinate units of levels of government (c) semiautonomous public authorities or corporations (d) area-wide, regional or functional authorities, or (e) non-governmental, private or voluntary organisations

Box 5.3. Philippines: Formulating a Contingency Plan

1. Environmental scan

2. Event definition

3. Policy identification

4. Emergency indicators for contingency planning

5. Sectoral arrangements

6. Coordination

7. Consolidation of draft contingency plan

8. Formulation of forward plan

9. Endorsement and activation

10. Testing and activation.

Source: Government of the Philippines, Contingency Planning for Emergencies: A Manual for Local Government Units (3rd ed.), UNHCR-NDCC, 2007.

Box 5.4. Contingency Planning in Mexico City

Mexico City, one of the largest megacities in the world, is located in a highly seismically active region where 19% of the national population live. Aware of this fact, the Federal District government has designed and implemented several policies, plans and programs for disaster risk reduction, including the Permanent Plan for Contingencies of Mexico City. The plan was drafted through the partnership of government with private and non-governmental organizations. As a result, institutional and coordinating mechanisms have been put in place such that the contingency plan can be executed within one hour after a disaster hits the city.

The contingency plan describes the procedures and responsibilities of each government agency and private/non-governmental organization in order to avoid duplication of activities, promote the efficiency and optimal use of human, material, technological and economic resources available, and to strengthen the capacities of government within the jurisdication of the Federal District government. The objective of developing the contingency plan is to prevent and mitigate the effects caused by earthquakes of great magnitude through coordinated actions know as main or core processes.

For seismic emergencies, the two main processes are operative and supportive. For the operative process, the actions defined by the plan are: (1) detection and damage, (2) rescue and salvage, (3) hospital and health services, (4) temporary shelter, (5) rehabilitation and restoration of services, (6) public security and feasibility. The supportive process includes: (1) supply of provisions, (2) emergency goods and services, (3) legal support, (4) information and social communication, (5) computer system.

All actions are coordinated by the Coordinating Center of Operations (CCO), which shall be the highest authority for disaster management during the recovery phase of the city.

Reference: EMI, 2007 Mexico City, Mexico: Contingency Planning in Mexico City in Manual of Sound Practices, Manila, pp. 54-56.

Areas of City Level Disaster Preparedness

Area of Preparedness	Checklist
1.Capacity inventory: government resources	• Institutional "architecture" for risk management (government, private sector, NGOs, civil society groups, national plan; local/city plan) • Participation of stakeholders • Legal framework clear; relevant ordinances • National budget allocations; local/city budget allocations • Sub-regional bodies in existence • Government's readiness level (stockpiles, logistics/ communications) • Government's willingness & capacity to receive assistance or to respond alone • Modalities for requesting international assistance
2.Assessment team awareness: common vision and awareness about disasters	• Shared understanding of risk management in the context of the country's current situation, links between development practices and vulnerabilities • Mandate and vision of each agency defined • Acceptance by each member of real possibility of emergency on their watch
3.Hazard identification, monitoring and early warning: risk levels	• Natural risks identified & prioritized • Disaster prone areas mapped • History, incidence & scale researched • Scientific experts & institutions contacted • Links with early warning systems (local/city, regional, global) established • Monitoring mechanism within the country established and updated regularly
4.Vulnerability assessment: awareness of vulnerabilities	• Data on poverty levels gathered • Most vulnerable groups mapped geographically (including minorities) • Socio-economic & cultural practices that raise vulnerability identified • Risks and vulnerabilities triangulated to identify geographic "hot spots"
5.Contingency planning: preparedness for contingencies	• Inter-agency Contingency Plan for natural disasters • National /regional counterpart(s) and neighbouring towns/cities involved in risk planning • Regular meetings held with partners • Risk map updated • Scenarios built, probabilities assigned • Triggering factors to implement emergency response established • Human resource, logistics and funding needs for most likely scenarios developed
6.Capacity inventory: human financial and material resources	• Access to technical support • Natural disasters focal point exists • Disaster plan for each agency and key institutions updated and tested • Disaster experience of team members identified • Access to emergency funding and disaster reduction fund • Awareness of available services, tools and mechanisms • Information management platforms following disasters
7.Logistics/IT/ Communications available to team	• Inventory of transportation means available in country • Inventory of each agency's capacity in radio and satellite communications • Inventory of storage-handling options • Inventory of transport and hubs in neighbouring regions • Awareness of customs procedures for incoming relief workers or in-kind contributions and international agreements governing use of emergency telecommunication in disasters
8.Partnerships available to team	• National emergency management agency & key contacts identified • Prior arrangements agreed upon with major private sector actors regarding involvement in disaster relief efforts • Overview of relief items frame agreements (in case of agreements by one company with more than one agency)
9.Coordinating arrangements in preparation and response	• Understanding of guidelines and SOPs from national disaster focal point • Breadth of Disaster Management Team established, including the Red Cross/Red Crescent Movement, NGOs, donors, private sector, government as desired • Lead agency identified in key sectors • Roles and responsibilities determined within each sector (e.g., health) • Minimum standards and key indicators in disaster response agreed upon • Common needs assessment tool for all agencies developed and joint assessments planned for • Information management platform agreed upon • Ground rules established for media contact and advocacy activities
10.Human resources/ training & surge/stand-by capacity; mechanisms for scaling up personnel	• Arrangements for borrowing personnel from nearby offices • Role of advisors • Rosters of experienced disaster personnel updated • Mechanism for calling in support at the country team level established • Joint disaster preparedness training and simulation activities for agencies and counterparts • Team members trained in risk management and response mechanisms

Note: (1) See also Guidelines to use the Inter-Agency Standing Committee (IASC) In-country Self-Assessment Tool for Natural Disaster Response Preparedness (http://ocha.unog.ch/). (2) At the national level, partnerships (no. 8 above) are manifested in terms of memorandums of understanding (MOUs) established with implementing NGOs in key emergency sectors, and standby agreements in place with suppliers to procure relief items locally.

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Sources of Sound Practices

Provention Consortium "Characteristics of a Disaster-Resilient Community".

DFID's Conflict and Humanitarian Fund is funding six international agencies (ActionAid, British Red Cross, Christian Aid, Plan UK, Plan International, Practical Action and Tearfund) to work on disaster risk reduction (DRR) initiatives. The agencies collaborate with each other wherever possible to avoid duplication and ensure good use of resources and combined learning.
http://www.proventionconsortium.org/?pageid=90

Tearfund "Turning Practice into Policy". (for comment (3) Executive Summary& (9))

http://tilz.tearfund.org/Research/Disaster+Risk+Reduction+reports/

Provention Consortium: cross section of different types and styles of VCAs. (for comment (5))

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Kyoto University: International Environment and Disaster Management Laboratory, Graduate School of Global Environmental Studies

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Tsunami Evaluation Coalition "Executive Summary":

http://www.tsunami-evaluation.org/NR/rdonlyres/32424F75-2C95-41BB-8D22-FA6867C67A96/0/Syn_Report_Sum.pdf

Earthquakes and Megacities Initiative (EMI), Urban and Megacities Disaster Risk Reduction: Manual of Sound Practices, Quezon City, 2007.

The manual is a collection of sound practices in disaster risk reduction that have been tested and implemented in cities in different parts of the world. It explains what a sound practice in a megacity setting is. Fifteen sound practices are discussed with the following headings: type of hazard addressed, type of sound practice, summary, contribution to the HFA, synthesis, and relevance to practice.

Pacific Disaster Center, Disaster Risk Management Sound Practices Profiles:

http://www.pdc.org/emi/emidisplayspbygroup.html

Cityriskpedia: http://www.cityriskpedia.com

Cityriskpedia is an online encyclopedia and wiki for documenting best practices in disaster risk management in the world's most disaster-prone urban environment. As a wiki, the collection searchable Disaster Risk Management (DRM) City Profiles and Sound Practices as well as a collection of other key references and documents can be enhanced by contributors.

United Nations, Towards a Culture of Prevention: Disaster Risk Reduction Begins at School, UNISDR-UNESCO, 2007 (http://www.unisdr.org/eng/about_isdr/isdr-publications/11-education-good-practices/education-good-practices.pdf)

The 39 good practices in schools are arranged under the issues of: 1) raising awareness within school communities; 2) building a culture of prevention; and 3) making school building safer. But they all involve school children, teachers and non-academic staff and, in some cases, the surrounding communities.

World Bank/Global Facility for Disaster Reduction and Recovery/ISDR, Climate Resilient Cities: A Primer on Reducing Vulnerabilities to Change Impacts and Strengthening Disaster Risk Management in East Asian Cities, The International Bank for Reconstruction and Development/The World Bank, 2008.

The primer contains sound practice examples of climate adaption and mitigation under 16 themes such institutional mechanism, catastrophic risk financing and transfer mechanisms, different economic sectors, among others.

Appendix A: City Outline Template

1 Introduction

• A location map of the country depicting the site of the City is desirable.

• The purpose of this section is to introduce the reader to important background material relating to the City, such as:

o (a) **National** statistics and other vital statistical information – demographic, economic, social and cultural characteristics

o Governance structure
- Governance style – parliamentary democracy, dictatorship, republic, federal system, etc.
- Describe the character of national-local linkages – e.g. is power sharing centralised/decentralised[28]
- Relevant national laws – name them only (details to be followed up in Section 2)

o Is disaster management explicitly included in the national development plan?
- How well integrated is DRM integrated into development programmes?
- Overview of major hazard, disaster or risk management projects that have been carried out in the country (when, why, what for, who for, who by) [29]

o Overview of national hazardscape
- Recent impacts (past 25 years)
- Types of most likely damaging hazards
- Overview of Disaster Risk Management (DRM) experience (note – this focuses on strategic and operational aspects of the national disaster planning and response system, the hazard management system and the risk management framework)
- Overview of the nation's land use planning and management programmes – laws, national-level agencies, relationship to sub-national system

o (b) The importance of the **City** within the national system:
- vital statistical information
- demographic, economic, social and cultural characteristics

o city governance structure
o Geographical setting of the City

2 Inter-City Linkages

• The purpose of this section is to get an understanding of how the City and its components interact: it is directing attention to the likelihood that the City is comprised of several self-governing local government units (LGUs).

o Internal division within the city – how many LGUs?

o How do they operate – autonomous, coordinated?

-What legislation and/or regulations shape the linkages?
-Is there an 'umbrella authority' or some other mechanism to assist coordination of political, strategic, functionally-specific task (e.g. transport, communications, water authorities, etc.) such as a Mayoral Forum, Metro-wide/regional Authority, etc.
-Are there specific formal arrangements between the City and other parts of the nation (e.g. Memoranda of Understanding, Mutual Aid Agreements) – what are these for?
-Any evidence of specific formal arrangements between City and international groups (e.g. Sister City) and how this is used for DRM

o How are DRM matters handled within the City?

-Relevant legislation – what, why, when, who, how, where?
-Organisational arrangements– what, why, when, who, how, where?

3 Land Use Management

• This section focuses on land use planning and management practices that focus on controlling existing hazard issues as well as reducing the likelihood of future hazards occurring by preventing inappropriate occupation or activity of land.

o Is there specific legislation (or regulations) that deal with managing land from a hazard perspective?
o Which City agencies have responsibility for these programmes?
o How are these programmes enforced?
o Have there been any cases brought to court or successful prosecutions under these provisions?

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28 Decentralization is here defined as the transfer of responsibility for planning, management, and resource raising and allocation from the central/national government and its agencies to (a) field units of central government ministries or agencies (b) subordinate units of levels of government (c) semiautonomous public authorities or corporations (d) area-wide, regional or functional authorities, or (e) non-governmental, private or voluntary organisations.

29 The point here is to gauge whether there is a history of DRM activity in the country and where the drive has come from

o Describe the relationship between national-level and City-level planning agencies

4 Vulnerability Issues

• This section focuses on the City's at-risk groups, hazard-prone localities, and other issues that result in making the City a more hazardous place to live.

o What number/percentage of the total population is
-Residing in informal/squatter settlements
-Issue pertaining to 'street people'/homeless persons?
-Children under 10 years
-Elderly (50+)
-Female (what percentage of females is in regular employment)
-Number/percentage of residents is on welfare or equivalent

o What percentage/total area of the City is located on marginal land?
-When did movement to marginal areas commence?
-Is it the result of planned action or is it from unplanned development?

o What is the number/percentage on non-engineered dwellings
-Are these single storey/multi-storied/mixed (%)
-Is there a Building Code – how is it administered and enforced?
-Where are the non-engineered structures located (e.g. in relation to marginal land)

o Are there official policies on slum/informal settler management?
-What is being done
-What is being proposed
-How well is it going

5 Disaster Risk Management Arrangements

• This section focuses on specific areas pertaining to how the City manages **public safety issues** resulting from natural, technological, biological or ecological hazards. It deals with (1) **functional arrangements** pertaining emergency services, (2) **risk assessment**, and (3) how DRM information is disseminated within the City (**Risk Communication**); .

o **Functional arrangements** relate to the agencies and organisations created to carry out DRM, and their relationships.
-What organisations have specific disaster management functions

• Are they private or publicly owned?
• Are they created by legislation – what, how, why?
• What is the accountability system – who, when?
• How are disaster-relevant organisations coordinated?
• Are there significant inter-agency relationship / cooperation issues?
• How are they resourced?

o **Risk assessment issues** deal with the practices, procedures and processes the City has developed to identify hazardscape issues
-Characteristics of the City's hazardscape – major hazards, periodicity, and numbers affected, etc.
-Changes in hazardscape over time – 'new hazards'
-Specific arrangements – legislation/regulations - what, why, when, who, how, where?
-Agency/ies responsible - who is involved; why, when, how, where?
-Are records collected on a database – which, who, what, where, when, how? Frequency of updates?
-Who has access?
-How is data accessed

o **Risk communication** deals with how relevant information about the City's risks are conveyed to the public and what public awareness programmes are in place
-Specific arrangements – legislation/regulations - what, why, when, who, how, where?
-Agency/ies responsible - who is involved; what, why, when, how, where?
-Top-down or bottom-up approach regarding local citizenry involvement
-Examples of local participation
-Type and frequency of public programmes

6 Disaster Risk Management Vision

• This section is directed to understanding what City decision-makers and/or other sectors want to put into place with respect to DRM

o Is the Vision enshrined in any legislation, regulation, strategy, or policy?
o Who is the Vision's custodian/sponsor (how was the Vision generated?)
o Who is responsible for ensuring the Vision is carried through
o Which sectors of the City are involved in developing the Vision – and what are their specific responsibilities
o What does the Vision cover?
o What time frame does the Vision?
o Who was involved in developing the Vision?
o How are the financial aspects of the City's DRM going to be dealt with?

7 Sound Practices (SP)

• In this section, attributes of the City's system are identified that officials believe are not only meeting their specific DRM needs, but could benefit other cities:

o Activity the SP covers:
-Legal
-Political
-Organisation-Managerial
-Technical
-Land-use Management

o When, why, who, where, how is this activity an SP?
o Does this SP meet the 6 Principles established in the SP Criteria paper:

-Universality/Transferability
-Applicability
-Expandability
-Orientation/Focus
-Assimilation/Integratability
-Impact/Effectiveness

o Is this SP:
-Sustainable over time
-Measurable, with defined criteria
-Achievable within stated timeframes
-Relevant to satisfy the situations
-Timely within carefully framed tasks and well-defined goals

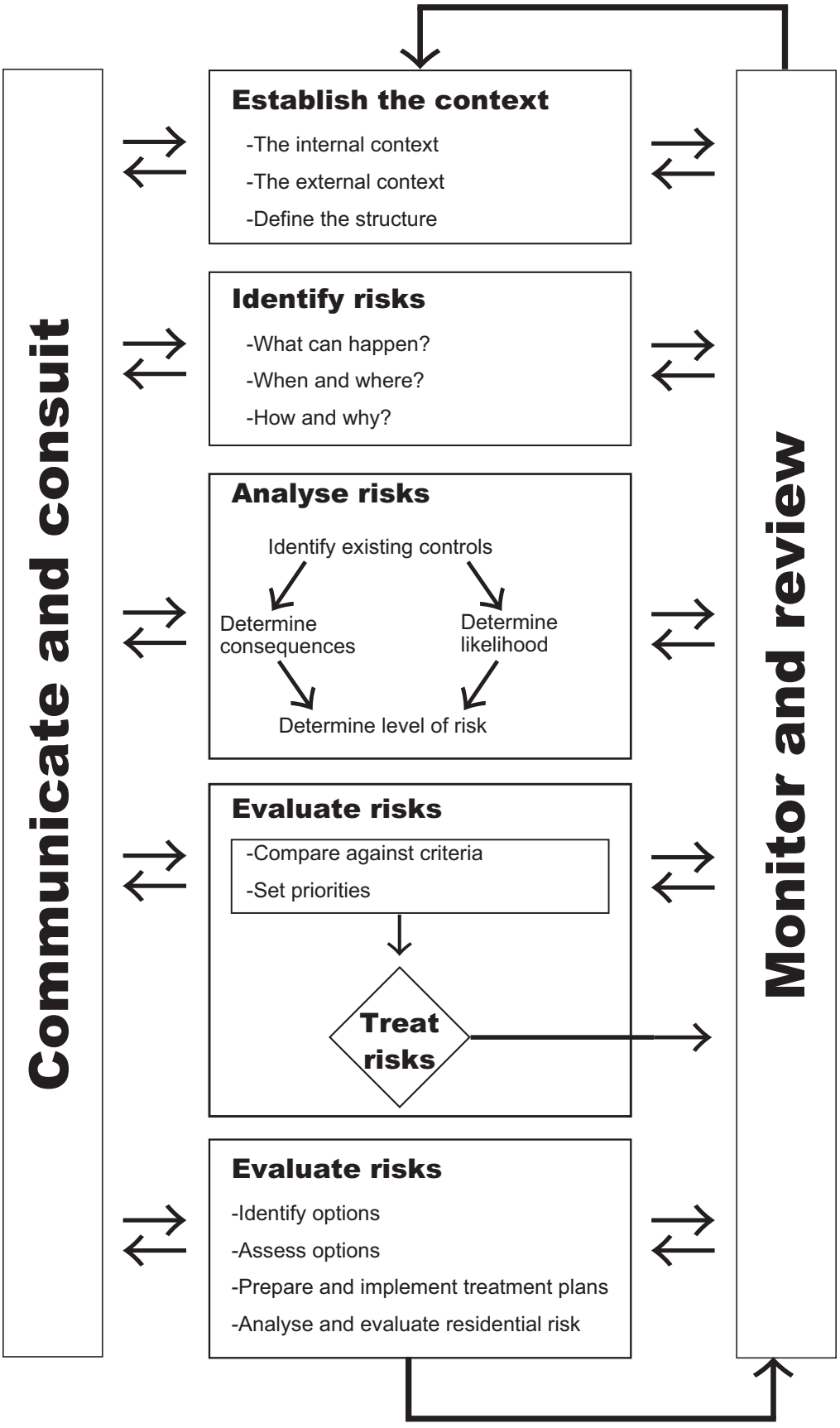
8 Issues

• Here, issues that relate to how the existing DRM system can be strengthened or developed are highlighted. The focus is on issues such as (a) bottlenecks that impede the initiation and continuity / sustainability of desired actions, including SPs (b) capacities that need to be improved

o What
o How
o Why
o Where
o Who
o When
o In each case indicate if the issue is created by local or national actions or non-actions.

Prepared by Dr. Neil Britton, and Team 4 (Jeannette Castro Fernandez, Antonio L. Fernandez, Zhila Pooyan Shadi Hijazi) of the Earthquake Disaster Mitigation Research Center (2004) for the use of the 3cd Program of Earthquakes and Megacities Initiative (Source: http://emi.pdc.org/DRMlibrary/General/template-CP.pdf)

Appendix B: Risk Management Process According to AS/NZ Risk Management Standard 4360: 2004



Appendix C: Natural Hazard Information Needs and Identification Tools

Hazard	Information type	Description		
		Preliminary mission	Phase I	Phase II
Cyclone/ Hurricane/ Typhoon	Maps	Historical events Risk	Bathymetric Drainage & irrigation Event-related inundation Floodplain for design event Historical events (affected area) Surge tide for design event	Structural damage (plus Phase I information)
	Studies	Event histories	Aerial photographs Coastal infrastructure Episodic data Event damage Flood histories Hydrology report Meteorological records Satellite imagery Tide tables	Same as Phase I
Drought & Desertification	Maps	Historical events	Aquifer and aquifer recharge areas Deep water well inventory Land use change	Same as Phase I
	Studies	Drought assessment Desertification assessment Event histories	Aerial photographs Aquifer recharge and reports on groundwater withdrawn Episodic data Event damage assessments Human & animal population density Meteorological records Satellite imagery Wind velocity & direction	
Earthquake & Tsunami	Maps	Event epicentres Plate tectonics/faults Regional geology Seismic risk/ microzonation Seismicity	Event epicentres/ faults Historical events (including tsunami-affected areas) Isoseismic Maximum observed intensity Seismic risk/ macrozonation Seismotectonic	Event epicentres Faults Historical events (including tsunami-affected areas) Liquefaction & slope failure Seismic risk/ microzonation Structural damage assessment
	Studies	Earthquake catalogues Event histories Tsunamic event history	Engineering design reports on major infrastructure reports Event damage assessment Interpretative soils reports to identify formations susceptible to liquefaction & slope failure Satellite imagery Strong ground motion	Same as Phase I

Hazard	Information type	Description		
		Preliminary mission	Phase I	Phase II
Flood	Maps	Drainage Flood plain Historical Events Event-related inundation	Drainage & irrigation Event-related inundation Floodplain for design event	Same as Phase I
	Studies	Event histories	Stream flow data (see “cyclone/ hurricane” above)	Same as Phase I of " cyclone/ hurricane"
Geological hazards	Maps (natural resource information related to the hazards)	Geology Topography	Aspect Geology Geomorphology Land use Land capability Slope Soil classification Topography Vegetation	Same as Phase I
Hydrological & Atmospherical hazards	Maps (natural resource information related to the hazards)	Life zones (ecology) Land use Land capability Precipitation Regional hydrology Soils classification Topography Vegetation	Geology (in addition to column 3)	Same as Phase I
Landslide	Maps	Slide inventory Hazard zonation	Simple hazard zonation map Landslide inventory	
	Studies	Event histories	Event histories & damage reports	
Volcano	Maps	Ash fall event Plate tectonics/ faults Regional geology Volcanic hazard	Ash fall event Faults Seismotectonic Volcano inventory	Ash fall event Faults Lava flow event Volcano inventory
	Studies	Catalogue of active volcanoes Event histories	Event damage assessment Distribution of recent & historic deposits of lava & ash Satellite imagery Volcanic activity monitoring investigations	Same as Phase I

Note: (a) During the Preliminary Mission, only existing information is collected and analyzed.
No new information is generated. (b) Phase I (Development Diagnosis) & Phase II (Project Formulation and Sector Plan Preparation): Information to be prepared and analyzed as completely as possible, depending on the previously established presence of the hazard.

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