Urban Governance and Community Resilience Guides

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Planning for Disaster Risk Reduction

3

The "Urban Governance and Community Resilience Guides" is a series of references for local governments who choose to be on the path to community resilience. It is designed to raise awareness of the challenges of reducing disaster risks in urban and urbanizing areas, and to present the essential tools and possible solutions.

planning for disaster risk reduction

ADPC dedicates the Urban Governance and Community Resilience Guides to

David Hollister
(1952 -2010)

who pioneered Urban Disaster Risk Management in ADPC and in the region by initiating the Asian Urban Disaster Mitigation Program funded by USAID/OFDA, contributed to make ADPC a regional resource center dedicated to DRR, and witnessed and took part in the growth of the DRR discipline from the sidelines to the center of the development discourse for over two decades. Dave, a tireless "American Asian", inspirational mentor to a generation of young professionals, champion of South-South and South-North partnerships, and partner of emerging champion institutions in Asia, who dedicated a major part of his professional career to making cities safer before disaster strikes, whose life was tragically cut short in an accident this March. In remembering Dave we renew our firm commitment to building resilience in urban communities and cities of Asia.

Foreword

As a former Governor of Bangkok, I know firsthand that mayors and other local officials can take action for fighting floods, fires and other hazards. Sometimes, it just takes leadership, inspiration and good examples to follow to get going in the right direction.

If you are an urban or municipal planner, this guidebook series is for you with its examples on risk reduction planning. If you are a health officer, community health worker, social worker, NGO staff, or community leader, this guidebook series is for you because of our firm belief in the ability of all stakeholders and communities to reduce disaster risk. Whether you are in charge of cleaning drains, issuing business permits or inspecting buildings for safety, this guidebook series will remind you how important all of that is for reducing risk. If you are an elected official, then this book series will show you what directives and policies are possible in your town or city because other towns and cities mentioned in these books have paved the way for you. We are inviting your comments as readers and users of the guidebooks, as these can help shape future editions.

I have witnessed the strong advocacy of many disaster management professionals for local governments to take on the cause of disaster risk reduction. The ideas and processes in this book have been tested and shaped by the team of people working for the Program on Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE) that was implemented from 2006 to 2010. This team includes ADPC staff who directly worked for PROMISE and on the content of the guidebooks, and our consultant Christine Apikul for helping craft the messages in the books.

There are other national-level champions who also contributed in numerous ways, and whose contribution we acknowledge with much gratitude.

Contents

Asia ...

... is the most urbanized region in the world

* Asia's urban population is rising at a rapid rate.
* Forty per cent of Asia's four billion people currently live in urban areas.
* Projections indicate that one out of every two Asians will live in cities before the year 2025.

... has high levels of poverty

* In Asia, about 60% of the poor live on less than $2 a day, most of them still living in rural areas.
* In Asian cities, almost 25% are living below the poverty line.
* The rate is increasing with the continuous influx of poor people into cities.

... has some of the fastest-growing economies in the world

* At the same time, rapid urbanization has been the key driver of Asia's dynamic growth.
* East Asia's urban population produces 92% of its wealth, with South East Asia not very far behind at 77%, and South Asia at 75%.

... is very prone to disasters

❋ It accounted for 40% of the world's disasters between 1999 and 2008.
❋ Disasters affect over 200 million people annually.
❋ Compared to 1989–1998, the past decade has seen disaster deaths in Asia rise by 52 % and the numbers affected by disasters rise by 26%.

... is affected by climate change

❋ Many cities in Asia are located along the coastline or in river deltas, exposing populations to hazards that are excacerbated by climate change such as floods and storm surges.
❋ Asia contains more than half of the world's cities which are most vulnerable to rising sea levels as ice sheets in the North and South Poles melt. Concerns are rising that communities in Asia will need to be relocated, or that there will need to be costly investments in sea defenses.

What does all this mean for people living in Asian cities?

Urban dwellers and local governments will be forced to cope with rising incidents of disasters.

As people and assets concentrate in cities, there is more to lose when hazards strike.

These disasters are likely to be more severe than before. They have the potential to destroy fast-growing economies, health and education facilities, public infrastructure, and cultural heritage sites. Already evident in some cities, disasters have the potential to stall or even reverse development.

Many of Asia's urban poor bear the brunt of disasters because they live in high-density conditions in degraded slums, and lack access to basic services such as a water supply, sanitation, health and education.

This is because many local governments have focused their efforts on responding to disasters rather than preventing or minimizing their impacts.

The disruption of urban systems can have implications beyond the city, affecting nations, and the wider world, due to the globalized connections between economies.

Many local governments feel that despite their best efforts to deal with disasters, conditions are actually becoming worse in their area.

Can we make our cities safer?

The short answer is **Yes!**

Some people believed that disasters are acts of their god, and therefore unavoidable. Because of this belief, some countries focus on providing relief and response as quickly as possible after a disaster, to prevent further loss of life and damage. Naturally this is seen as the responsibility of emergency specialists.

More people are recognizing disasters are as failures of development or as the result of unsustainable development. This implies that we ourselves are creating the social, economic and political conditions that lead to disasters.

Individuals, communities and governments can increase their disaster risk by:

❈ Living in ways that degrade the environment
❈ Overpopulating urban centers, pushing the urban poor into hazard-prone areas
❈ Creating and supporting structures and practices that promote unequal access to, and control, over resources
❈ Allowing the construction of unsafe/substandard houses and buildings, and building in high-risk areas

This understanding of risks has led to approaches for disaster risk management that consist of:

❈ Identifying potential hazards
❈ Determining their probability of occurrence
❈ Estimating their impact on the communities at risk
❈ Promoting practices for reducing vulnerability
❈ Planning measures and taking action to reduce risk
❈ Creating awareness of how to implement disaster risk reduction (DRR) measures
❈ Providing opportunities for the sharing of experiences on DRR by local government offficials

Disaster risk reduction needs to take place at the local level. Why?

Because even in the event of catastrophic disasters like the 2004 Indian Ocean tsunami, the 2005 Pakistan earthquake, or Typhoon Ketsana in 2009, the impacts from each disaster in each municipality differ widely.

The degree of economic losses and amount of damage to buildings and infrastructure are determined by the different levels of exposure and vulnerability of the population, infrastructure, facilities, etc. of each locality.

The more local governments and local communities know about their risks by doing their own risk assessment and evaluation, the more they can learn about what they can do to protect themselves. We then have a better chance of reducing risks, loss and damage, and using the recovery period as an opportunity to create a stronger, more resilient community.

At the same time, many of the causes of disasters are not local. Flooding in one area can be affected by deforestation several kilometers away. One single local authority cannot resolve all risk factors. Therefore, it is also necessary to work with networks and associations of municipalities on a larger scale.

"i call for the need of world leaders to address climate change and reduce the increasing risk of disasters – and world leaders must include Mayors, townships and community leaders."

Ban Ki-Moon, United Nations Secretary-General

"A lesson from the Hat Yai flood crisis is that a disaster is never caused by any one factor. The success of overcoming this crisis depends on the effective cooperation of all departments concerned."

Kreng Suwanwongse, Mayor of Hat Yai (1999-2002) in the aftermath of the major flood of November 2000 in Hat Yai, Thailand

"Urban risk reduction delivers many benefits. When successfully applied as part of sustainable urbanization, resilient cities help reduce poverty, provide for growth and employment, and deliver greater social equity, fresh business opportunities, more balanced ecosystems, better health and improved education."

Margareta Wahlström, Special Representative of the Secretary-General for Disaster Risk Reduction, United Nations International Strategy for Disaster Reduction

Introduction

Perspective has shifted from viewing disasters as unpredictable and unavoidable events that are dealt with by emergency specialists, to recognizing that we ourselves create the social, economic and political conditions that increase our risk to disasters. We can do something to reduce those risks.

Cities are vulnerable to the effects of natural and human-made disasters due to a complex set of interrelated factors that needs to be looked into by a wide range of disciplines, sectors, levels and institutions.

Disaster risk management is a systematic process that takes all these factors into consideration, and draw on the capacities, innovations and synergies available to lessen the impact of hazards. There is no shortage of possibilities for reducing disaster risks in all its five phases of disaster mitigation, prevention, preparedness, response, and recovery (see Book 1 for more detail).

Planning is a management tool to help make decision on the appropriate mix of risk reduction options.

Results from the risk assessment process described in Book 2 would have revealed the risks posed by various hazards in the locality. This information provides the basis for formulating a disaster risk reduction (DRR) plan.

The plan is a guide to keep implementers on track and serves as documentation of the thoughts and considerations that were the foundation of the planning process.

As community leadership changes, and during intense decision-making situations (such as the post-disaster setting or when undertaking major land development decisions), the plan will serve as the representation of the locality's principles for DRR.

It helps if the planning team/committee has the authority to develop the plan. A council resolution or a memo from the city manager or mayor is useful, because one of the biggest challenges will be getting other departments to devote some attention to the development and implementation of the risk reduction plan.

Something to think about

Why do we need to plan for DRR?

✳ To help your locality become more sustainable and disaster resilient by selecting and prioritizing the most appropriate risk reduction actions, based on the knowledge gained in the risk assessment process.

✳ To ensure that activities are coordinated with each other and with other local development goals and activities.

✳ To reduce the cost of implementation by providing a forum for engaging in partnerships and encouraging the pooling of technical, financial and/or staff resources to reduce disaster risks.

✳ To educate those involved in the planning process on the local risks and risk reduction measures.

✳ To build widespread political support from stakeholders for DRR projects.

✳ To build a constituency that wants to see the risk reduction measures implemented.

The Planning Process

The objective of planning is not to produce a perfect document but to develop a process; what really counts is how the plan is prepared.

In other words, it is not the resulting document, but rather the process of planning that is important.

The process or the way one goes about planning for disaster risk reduction is a key factor in determining its success. A plan drawn up by a few key risk reduction experts may be technically sound but may face challenges in the implementation of some of the activities. Communities and local government are more likely to be committed to the plan's implementation if they participated actively in its formulation.

Each town or city will have a unique process for developing DRR plans. However, certain elements are essential to DRR plans as well as other types of development plans:

1. Engaging stakeholders
2. Developing goals and objectives
3. Formulating an action plan
4. Integrating risk reduction measures in development plan
5. Securing funding
6. Planning for response and recovery
7. Monitoring and evaluating progress

Steps for Planning

The approach to disaster risk reduction planning is fundamentally the same as any planning process and planners will recognize these iterative steps as follows:

❊ Organize to prepare the plan
❊ Involve stakeholders
❊ Coordinate with other agencies
❊ Set goals
❊ Review possible strategies and measures
❊ Draft an action plan
❊ Adopt the plan
❊ Implement, monitor, evaluate and revise the plan

Box 1

Proposed outline for the disaster risk reduction plan

1. Introduction
2. Problem description
3. Community consideration
4. Goals and objectives
5. Rationale for proposed risk reduction measures
6. Implementation plan (who will do what, budget and resource needs, timeline, milestones etc.)
7. Monitoring and evaluation mechanism
8. Plan update schedule

Engage Stakeholders

Stakeholders are the individuals and organizations that literally have a stake in the outcome of the risk assessment process. They may be directly responsible for reducing a specific community risk. They may be directly affected by the community risks and/or the measures selected to control them, such as the local residents and businesses owners. They may have information important to mapping hazards or assessing risks.

The first set of stakeholders are the government officials who work for your town or city, such as local geologists, engineers, land-use planners, etc.

A second set of stakeholders come from academic and research institutions that can provide technical expertise. They may also offer low-cost staff (students), meeting facilities, the latest data related to the locality, and training resources.

Some local and international non-governmental organizations can offer expertise and resources, as well as local knowledge particularly if they have worked in a locality for a long period.

Finally, do not forget community-based organizations including religious, gender and youth-based groups, nor the groups organized around particular interests, such as environmental and social improvement. These organizations are sensitive to local diversity and local customs, and can act as intermediaries, conveying information between community leaders, local residents, particularly from the marginalized population, and the planning team/committee.

While the development of a plan at its minimum may involve a small number of disaster managers or other specialists, disaster risk reduction planning is a priority-setting and partnership-building exercise to coordinate the efforts of multiple agencies and levels of government and society. This means the process needs to be inclusive and participatory, and the local planning authority would benefit from identifying and engaging stakeholders in the risk assessment process.

Multi-stakeholder workshops and other consultations forums are some ways of getting their input. The same stakeholders can also provide support throughout the DRR plan's implementation phase.

Something to do

Who should be involved in planning to reduce disaster risk in cities? Try to make a list of 5 potential stakeholders for the risk reduction planning process, then compare it to the list below.

* Urban development authorities
* Local elected members such as mayor/governor and council members
* Local government representatives
* Heads of local departments (e.g. planning, communications, education, engineering, environment, health, transportation, welfare services, etc.)
* National and provincial or state government representatives from line ministries or agencies
* Donor representatives
* Emergency service personnel (fire department, policy, army, search and rescue team)
* Researchers and academics
* Professionals of technical and scientific institutions
* Employers and workers of the private sector
* School teachers and administrators
* Health facility/hospital officers and staff members
* Representatives from non-governmental organizations (international and national)
* Representatives from community-based organizations (women's groups, youth groups, neighborhood organizations)
* Community leaders
* Representative from at risk communities, including marginalized groups (women, children, elderly, disabled, ethnic minorities, indigenous people)
* Journalists and other personnel of media agencies

There are a number of approaches to engaging stakeholders; these include:

* Hold town hall meetings. This is an effective way to bring all residents and stakeholders together to learn about results from the risk assessment and the progress made on the plan, and to provide input to the planning process.
* Create a planning committee or tap an existing committee . Its members should include people with direct knowledge or understanding of the subject area. A committee can review the needs and concerns of all interested groups, initiate synergies among participants, keep their departments or communities up-to-date on any progress, and reduce the duplication of work.
* Organize a workshop or group session. Bring problems and issues to the table and gather new ideas for solutions. These meetings are most productive when a trained facilitator directs discussions and obtains consensus. Workshops can be held at various milestones in the planning process, for large or small groups, for particular stakeholder groups or for a mix of stakeholders.
* Conduct focused group discussions. These sessions target the voices of specific groups. Pay particular attention to the marginalized segments of the urban population (e.g. street vendors, daily wage laborers, etc.) and specific at-risk labor segments (e.g. taxi drivers, security guards, and others). School children can be added as a population segment whose energy and creativity can be tapped for risk reduction.

These approaches provide the opportunity for stakeholders to come together to share information personally, to get to know each other, and to clarify roles and responsibilities.

Other participatory methods include establishing a telephone hotline, conducting interviews and distributing a questionnaire.

Remember to acknowledge the achievement of participating stakeholders at events or through media channels to leave them with a positive experience of their work disaster risk management.

Risk Communication

It is crucial to put in place a mechanism to keep stakeholders regularly informed of their risks, and provide avenues for dialogue during the planning process. Here are some ways to do it:

❊ Media agencies should be involved in covering the planning process, thus reaching not only the stakeholders but also the public in general.

❊ Tap the existing indigenous, traditional and informal communication networks unique to the locality for disseminating information and obtaining feedback.

❊ Post the latest news, events and updates on noticeboards and websites.

❊ Online discussion forums can be set up on websites to promote interactivity.

❊ Leverage the opportunities presented by various information and communication technology applications (such as mobile phones and the Internet) to engage stakeholders from "virtual" communities. This is particularly useful for establishing linkages between local stakeholders with, national- and global-level stakeholders.

❊ Provide updates through electronic newsletters and e-mail to a list of subscribers. However, since not all stakeholders have Internet access, consider distributing the same information via a printed newsletter.

Develop Goals and Objectives

The risk statement, scenario and/or map produced in the risk assessment phase illustrates the 'problems' and their causes. The planning process offers to find the best solutions to these problems.

To begin identifying solutions to these problems, it is helpful for local government and community groups to **define a shared vision of the city** that they would like to have, and then to develop goals and objectives based on the vision. For example, in Metro Manila, stakeholders have agreed on the following:

Vision:

"A highly responsive and resilient community for a safe and protected built and natural environment."

One objective:

"Provide a stronger legal basis and regular department status and budget for local disaster management offices or organizations that now exist on the basis of executive orders and to provide legal basis for mitigation policies and support of disaster risk management programs."

There are more details on the Metro Manila in one of this guidebook's case study.

Goals and objectives often arise from social and environmental values, political desires, historic preservation concerns, state or provincial priorities and/or funding opportunities.

For example, a community with a large tourism industry may be more interested in protecting historic or commercial assets first than in protecting other assets that demonstrate a higher vulnerability to hazards. If this is the case, the planning team/committee should document the reasoning behind these goals or objectives, then try to align these values with DRR objectives (such as ensuring business continuity or applying mitigation measures that could protect historic buildings.).

Formulate an Action Plan

Based on the agreed upon goals and objectives and on results of the risk assessments, risk reduction actions are identified and prioritized.

This is often done by organizing a multi-stakeholder workshop or disaster risk management committee meeting.

What is in an action plan?

The action plan addresses the following questions:

* What do we need to do?

* Who is responsible for implementing which risk reduction measures?

* Who can help implement the measures?

* How much will they cost? (budget)

* What will be the funding sources for these measures?

* When do we need to complete activities? (implementation schedule)

* What are the arrangements for monitoring, evaluation, review and revision (when, how, who, what)
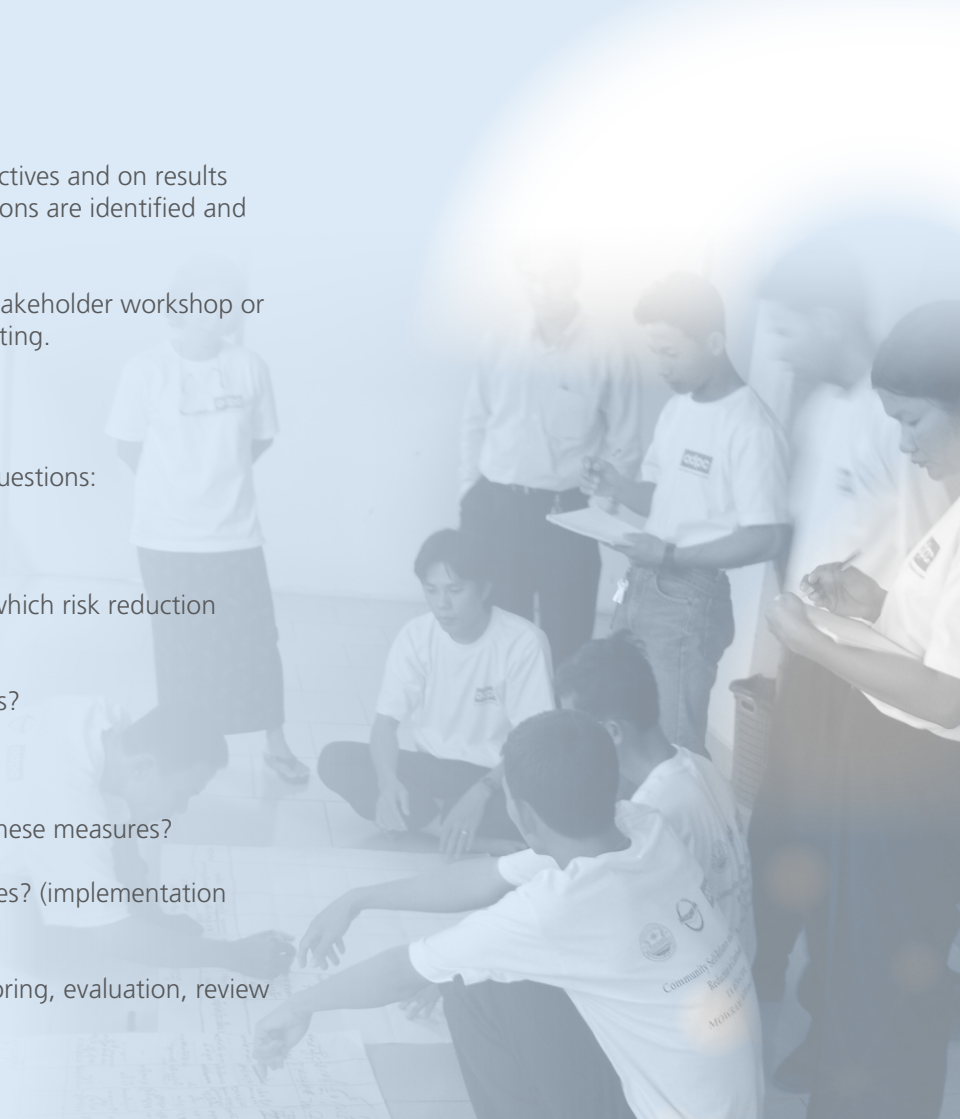
Develop an action plan

Details of what will be done, by whom and when needs to be documented in an action plan.

The disaster risk reduction options selected should qualify against the following factors:

* Options should be technically acceptable and feasible under all circumstances
* The selected implementing agency/ organization should have the capacity to implement the selected risk reduction options
* Should bring positive environmental impacts
* Should be socially acceptable and compatible with the farsighted community values and social ethics
* Should be acceptable to political leadership
* Legal authority for implementation or the possibility for creation of legal authority should exist within the local government

It is also useful to include a description of how the plan was prepared. This helps readers (and potential funding agencies) understand the background, rationale, and stakeholder input into the plan.

Checklist for Reviewing a Plan

Once the plan is developed, present it to a governing authority for adoption (such as the disaster risk management committee or urban council), and to formally authorizing the responsible bodies to implement the plan. The checklist below contain some questions that may help to review the plan.

* What actions can help meet risk reduction objectives?
* What resources and capabilities (staff, technical experts and funds) are available to implement these actions?
* What additional technical information is needed to recommend and adopt the proposed risk reduction measure available, if any?
* Were national-level organizations (such as the national disaster management organization) represented in the action planning process to provide clarifications regarding legal and administrative issues?
* Is the community, organization or individual that has the authority to implement the proposed risk reduction measure willing to do so?

* Is there high-level political support to implement and sustain these actions?
* Are there local champions willing to help see the actions to completion?
* Have you estimated the costs and benefits associated with the risk reduction measures?
* Are there any proposed actions that need to be set aside temporarily until additional funds are available?
* What impacts (if any) will these actions have on the locality?
* Do the proposed actions account for the growing intensity and frequency of risks posed by climate change?
* Are the actions in line with the internationally agreed upon Hyogo Framework for Action? See Box 2 for more information.
* Have other organizations or forums addressed the same problem and developed a solution that can be replicated in your locality? (It is worthwhile to check with the national disaster management organization, or to search reports and websites for sound practices.)

Use the Hyogo Framework for Action to guide the action planning process

One hundred and sixty-eight States adopted the *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* at the World Conference on Disaster Reduction in 2005. All the UN Member States at the UN General Assembly later endorsed it unanimously.

The indicators of the five HFA priorities can guide a local government in its design of policies and projects.

Box 2

Aligning local disaster risk reduction with the Hyogo Framework for Action

The HFA identifies five specific priorities for action, with a total of 20 tasks for action for local stakeholders:

Local/city governance (HFA Priority 1)

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

Risk assessment and early warning (HFA Priority 2)

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)

Task 9	Raise awareness of DRR and develop education program on disaster risk reduction 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 DRR-relevant information.

Vulnerability reduction (HFA Priority 4)

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 DRR 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)

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

Integrate Risk Reduction Measures in Development Plans

A local government is the governmental body responsible for the long-term development of its area and the well-being and safety of its citizens. It cannot afford to ignore risk considerations because disasters may destroy development outputs and gains.

The risk assessment phase is a good entry point for connecting local concerns with disaster risk issues. Local development planning is where these issues can be paired up with solutions. A DRR plan can be developed in light of economic, social and political realities. This in turn increases the likelihood that planned risk reduction measures are successfully implemented.

During the local planning process, it is important to review existing development plans and other policy documents, and ensure that the risk reduction goals and objectives are consistent with those of the other plans at the local and national levels. In the event that goals do conflict, it is important to discuss how such a conflict could be resolved. It may be that the existing plan did not benefit from the risk knowledge gained from the assessment.

When the goals complement each other, there is the potential to implement planning initiatives that serve multiple objectives for your locality that contribute to sustainable development as well as to build support for DRR.

Projects stakeholders will need to prioritize the DRR initiatives to ensure that local government will implement the most important ones as funding or other required resources become available. Some donor agencies work closely with governments to identify, prioritize and fund risk reduction actions (such as Bangladesh's Comprehensive Disaster Management Programme discussed as case study 4).

Planning for Response and Recovery

Book 4 has more details on the integration or mainstreaming of disaster risk reduction in development policies and practices.

During a disaster, local governments are immediately confronted with the responsibility of providing and coordinating relief. Emergency response planning before a disaster strikes is critical to effective and efficient response. It involves agreeing on roles and responsibilities of different organizations, developing operating guidelines for response and recovery, and identifying the available resources. The emergency response plan can be a separate sections of the DRR.

The recovery phase is an opportunity to incorporate risk reduction into development agenda for the following reasons:

* A disaster will bring people from various agencies and sectors together to focus on the locality and its risks.
* Residents and elected officials will be more interested and more willing to address risk issues as well as try new solutions.
* There may be new sources of funding available for recovery.
* A number of pending risk reduction actions can suddenly be viable as a post-disaster situation dramatically alters the political will and access to funds.

The presence of a good plan maximizes opportunities to 'build back better' - to improve infrastructure, to support the asset bases of individuals and households at risk, and, ultimately, to improve survivors' life chances and resilience. Let us avoid returning their risk to pre-disaster levels.

Local governments that have specific and feasible risk reduction actions can seize the 'window of opportunity' following a disaster, and quickly articulate their needs to national government officials and other potential donors. These localities will have a competitive edge when post-disaster funding and technical assistance become available.

Funding Options

First, the local government should look at its own budget, including annual budget for development and special funds for emergency preparedness. It can look to the national government for funding specific projects. Some risk reduction measures are inexpensive and simple solutions that a local government can afford.

Often, the cost of implementing the list of risk reduction measures are greater than the funds that are or will be available. However, there are other sources of funding that local government can explore.

There are local businesses, NGOs and the community residents themselves are potential sources of funding and of in-kind contributions such as people's time, labor, use of equipment and office/meeting space that can lower project costs.

Grants and services from foundations, environmental organizations, volunteer groups, and other non-profit organizations may be worth considering; such organizations are often willing to contribute financial or other resources if they feel there is a significant need.

Many local governments do have to face the challenge of accessing risk reduction funds from donor agencies as they typically work directly with national government. However, some bilateral and multilateral donor agencies are presently recognizing the critical role that local governments play in disaster risk reduction, and have channeled more and more funds directly to cities. The approach to take is to match donor's interest with specific risk reduction actions.

Examples include the Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (see the Indonesia case study in Book 2 and the Philippines case study in Book 4) and the Cross-Cutting Capacity Development Program that assists cities implement sound practices in disaster risk management, including development citywide Disaster Risk Management Master Plans (see the case study in this book on Metro Manila).

Monitor and Evaluate Progress

There should be a formal process to measure progress, assess how things are proceeding, and decide on what are the needed changes.

The system can be in the form of a checklist maintained by the person designated as responsible for the plan. A more formal system of reporting to a higher authority, such as the governing board or an oversight committee, can be put in place.

It is important to develop mechanisms to track the effectiveness of implemented risk reduction measures.

The action plan should have clearly defined tasks and deadlines.

Moreover, indicators help keep track of how projects have performed over a period. Indicators contribute to ensuring achievement of objectives and key results areas.

Questions to Ask

❈ What are the results of the implemented actions?

❈ Do the results achieve the goals/objectives outlined in the plan?

❈ Are the goals and objectives still applicable?

❈ Have any changes in the policy or physical environment made the goals/objectives obsolete or irrelevant?

❈ Do we need to re-prioritize existing actions for implementation?

❈ Can we tap new sources of funding?

❈ Can we develop new partnerships with stakeholders?

Plans are living documents that require adjustments to maintain their relevance. The planning team/committee prepared the risk reduction plan to articulate the locality's values and strategies at a particular point in time. Like every other plan, the committee must review its plans periodically for these to remain a useful tool to guide growth and change in the locality.

Periodically, the plan should be evaluated in light of progress and changed conditions. The planning team/committee should meet on a regular basis (annually or bi-annually) to review progress and submit recommendations to the organizations responsible for implementation.

In addition, there should also be open channels in which stakeholders, particularly community members can provide feedback and suggestions, and voice their concern and needs. These issues should be discussed at the 'review' meeting and given due consideration when revising the plan.

The planning team/committee should revisit the DRR plan after a hazard event and make any necessary revisions based on lessons learned from the disaster. In addition, measures implemented before the disaster should be evaluated to see how well they performed.

This series of guides shows how to identify, plan, and implement cost-effective actions through a comprehensive approach known as Hazard Mitigation Planning. The process consists of four basic phases:

* **Organize resources** involves organizing resources, mobilizing the community, and getting started with the planning process;
* **Assess risks** identifies hazards and estimates the losses associated with these hazards;
* **Develop a mitigation plan** describes how to identify, plan, and initiate cost-effective actions; and
* **Implement the plan and monitor** progress, and evaluate the results of mitigation actions to keep the mitigation plan relevant over time.

Within the figure:

organize resources

assess risks

develop a mitigation plan

implement the plan and monitor progress

1 adopt the mitigation plan

2 implement the plan recommendations

3 evaluate your planning results

4 revise the plan

Case Studies

The case studies below showcase different aspects of DRR planning. The first four cases serve to draw out lessons learned for the benefit of other cities. The last case is an example of a national policy that sets the planning environment of cities for DRR.

1. In **Metro Manila**, Philippines three cities pilot tested a Disaster Risk Management Master Plan model as part of a program led by the Earthquake and Megacities Initiative. Although the program was developed by an external organization, its methodology was geared towards strengthening capacity of local stakeholders for undertaking the planning process. The case study provides details of the plan, including its vision, priority action items, and how action items were prioritized.

2. Tourism is a major contributor to Thailand's gross domestic product, so the Ministry of Tourism and Sport developed a comprehensive risk management strategy for the tourism sector in **Phuket** as a model that could be applied to other parts of the country. The case study features the strategy, how it was developed, and its links to other relevant strategies and plans for tourism development and disaster risk management of the national and provincial governments.

3. **Naga City** in the Philippines developed a disaster mitigation plan a decade ago, with support from a regional program of ADPC. The plan continues to be relevant today, actions identified in the plan have been implemented, and the plan has been used as an advocacy tool to incorporate risk reduction in physical planning and construction. The key ingredients that contributed to the plan's success included leadership of the City Mayor, commitment of local government officials, and a long-standing public-private partnership.
4. The Bangladesh case study demonstrates the contingency planning process in three cities - **Dhaka, Chittagong and Sylhet**. The Bangladesh's high-profile Comprehensive Disaster Management Programme supported this initiative with the aim to strengthen the cities' resilience to earthquakes. Using earthquake risk scenarios, the city governments developed their three city-level contingency plans. The Inter-Agency Standing Committee 'cluster' approach was used to organize the development and implementation of the contingency plans.
5. The case study from **Sri Lanka** features extracts from a revised National Policy on Local Government issued in December 2009, which is a critical breakthrough for Sri Lanka for it officially mandates local governments to manage disaster risk, and put in place a capacity development strategy to boost the available skills.

Despite the different approaches and focus taken in developing and implementing DRR plans, all the case studies have common lessons as follows:

❊ A competent lead/focal person/organization is critical to the success of the planning process.
❊ Consider carrying out disaster risk management and planning through partnerships, including multi-level partnerships, multi-sector partnerships and public-private-civil society partnerships.
❊ Support from national government, particularly in providing an enabling environment for DRR is essential for a successful planning and implementation process.
❊ Commitment from local government is another key ingredient for successful planning and implementation.
❊ DRR planning must go hand in hand with capacity development efforts.

Metro Manila Establishes Model for Participatory Risk Reduction Planning in Megacities

Since July 2004, three cities - Makati, Marikina and Quezon City - collaborated in planning and implementing Metro Manila's Disaster Risk Management Master Plan. The Earthquakes and Megacities Initiative, an international NGO of scientists and engineers, which received the support of the local chief executives to put the DRMMP in place, initiated the planning process.

The DRMMP process provided a framework for local governments to implement a disaster risk management agenda systematically, consisting of legal, institutional, financial, social and technical elements.

The basic DRMMP process included the following actions:

* Capturing the knowledge gained through previous projects
* Consolidating risk information related to major hazards
* Determining current practices, gaps and deficiencies, and sound practices
* Communicating risk in meaningful ways
* Identifying legal and institutional arrangements, administrative structures, resources, constraints and timelines
* Engaging in a participatory planning process to develop consensus on priority actions
* Developing ownership and commitment among stakeholders to take action
* Establishing the implementation structure, procedure and processes
* Instituting monitoring and updating processes

Recognizing that disaster risk management is a shared responsibility, a cross-sector, inter-agency course of action that is highly participatory and collaborative was undertaken. Coordinating and overseeing the planning process and the linkages between the different levels and sectors was the Philippine Institute of Volcanology and Seismology (PHILVOCS), a credible public research institution.

Key stakeholders that participated in the planning process included:

❋ City government officers engaged in areas covering land-use planning and management; emergency response, civil defense, police, fire and health; city management and governance; construction and public works; public services providers, water, electricity, sewerage, telephones and housing; and education.
❋ Other stakeholders (e.g. local policy makers, researchers, architects, urban planners, engineers, national government representatives, and representatives of NGOs and community-based groups.)

International partners including the Earthquake and Megacities Initiative, Kobe University, the Pacific Disaster Center, Provention Consortium and United Nations Development Programme, were also involved to support the process and contribute in the following areas:

❋ Provide scientific, technical and project management expertise
❋ Share experience from other cities and countries
❋ Provide regional and international visibility and advocate on behalf of Metro Manila
❋ Identify funding sources and support stakeholders in securing funding
❋ Facilitate communication and participation and help build consensus

The process created a platform to discuss and develop a vision: "a highly responsive and resilient community for a safe and protected built and natural environment."

Based on this vision, stakeholders identified and prioritized the objectives and action items in a series of consultation and stakeholders' workshops.

To initiate the action planning process, an inter-disciplinary team reviewed the recommendations from previous studies and assessments and developed a disaster risk management framework and agenda with 10 elements that formed the basis of the DRMMP (see Box 4).

Box 4

Elements of the Metro Manila DRMMP

1. Strengthen the Metro Manila Disaster Coordinating Council
2. Promote the adoption of disaster management ordinances by each city and municipality
3. Promote the revitalization of city/municipality Barangay Disaster Coordinating Councils
4. Institutionalize disaster risk management within local government framework and financing
5. Enhance lateral and vertical inter-agency and inter-governmental communication and coordination
6. Enhance the legal basis for disaster risk management at the national level by updating/replacing Presidential Decree 1566
7. Promote policies that encourage implementation of DRR and develop mechanisms for mainstreaming DRR within local government functions
8. Promote local government mitigation planning through existing planning tools
9. Conduct training needs assessment and develop capacity building programs
10. Strengthen barangay preparedness level for disaster response and relief

From the elements given in Box 4, stakeholders formulated and prioritized objectives and action items, and classified the same into short-, medium- and long-term actions.

They used following criteria: relevance and viability, importance, resources and constraints, implementation process, timeframe and ownership.

These objectives and actions were then further refined to produce five implementation work plans that could be executed immediately (see Table 1).

Subsequently, five focus groups formed, corresponding to the five implementation work plans. The focus group approach served as the mechanisms for ownership building and sustainability through the continuous engagement of stakeholders in decision-making, as well as their participation in seminars and training events.

The successful implementation of these work plans would be dependent on the cooperation of various functional and organizational levels of the local government as well as other entities not under local government authority, such as provincial/state or national government agencies, and research institutions, NGOs, etc.

Table 1	Implementation Work Plans of the Metro Manila DRMMP

	Description	Local Lead Partner
1	Develop and institutionalize technologies for risk communication and preparedness	PHIVOLCS, MMDA
2	Incorporate risk reduction criteria in land-use and urban planning	MMDA Planning Office, Marikina City
3	Conduct training needs assessment and capacity building for disaster risk management	OCD, MMDA
4	Mobilize resources among NGOs, professional organizations and private sector in the disaster risk management agenda	PHIVOLCS, MMDA, PICE
5	Improve legal and institutional arrangements for disaster risk management delivery	MMDA, NDCC

(Source: EMI, The Disaster Risk Management Master Plan of Metro Manila, 2007)

Integral to the DRMMP methodology was a capacity development agenda to enhance the human and institutional capacities of local professionals and policy makers in undertaking the DRMMP process.

A stakeholders' evaluation of the Metro Manila experience indicated a keen interest and involvement from the stakeholders, creating a positive dynamic to engage stakeholders and commit institutions to the goal of changing practices and influencing policy.

With the DRMMP approach validated, the next phase would be to change practices with a focus on land-use planning and policy, building code implementation, and capacity development to sustain these positive changes.

The planning experience in Metro Manila contributed to the development of a Disaster Risk Management Master Plan as a model and implementation process. The plan aims to empower local governments, local institutions and local communities to plan and implement DRR projects. It also tries to mainstream disaster risk management as a regular management and planning process, and as an integral part of local government functions, operations, and services. This model is being replicated in Kathmandu Valley, Nepal and Amman, Jordan.

Thailand Develops a Model Risk Management Strategy for the Tourism Sector

The devastation caused by the 2004 Indian Ocean tsunami and its impact on the tourism sector prompted Thailand's Ministry of Tourism and Sport to formulate a strategy to better manage future disaster risks and minimize losses in the tourism sector.

Thailand is one of the world's top tourist destinations, and after the resort city of Phuket was badly hit by the 2004 tsunami, it was selected for a project to integrate tsunami risk management in tourism planning.

Thai government officials, tourism industry representatives and media formed a multi-stakeholder team to develop and implement the Phuket Province Tourism Risk Management Strategy 2007-2012. The Governor of Phuket Province chaired the team.

This project was supported by the Thai Ministry of Tourism and Sports, ADPC, APEC International Centre for Sustainable Tourism, and the Australian Agency for International Development.

The mandate of the team was to:

❊ Provide leadership to further the development and implementation of the Phuket Tourism Risk Management Strategy
❊ Develop a task list for each member agency
❊ Develop and implement an action plan for implementation of the strategy
❊ Improve tourist safety in Phuket
❊ Put in place a proactive communication strategy for the safety and security of tourists visiting Phuket
❊ Promote greater attention to safety and security of tourists in the design and construction of buildings, and in overall infrastructure development of Phuket province
❊ In the event of a disaster, take the lead for the tourism sector in responding to and recovering from a disaster or crisis and meet regularly during this period

During this time a series of workshops were organized for different purposes, to:

❊ Raise awareness and strengthen capacities
❊ Assess risks
❊ Obtain input, comments and feedback on the strategy
❊ Discuss and agree upon operational arrangements and plan of action for implementing the strategy

In developing the strategy, the following stakeholder groups participated:

❊ The Phuket Government, including the Phuket Governor, Phuket Provincial Administrative Organization, and City and District Councils
❊ Tourism-related government agencies, such as the Phuket Provincial Center of Tourism, Sports and Recreation, Tourism Authority of Thailand Southern Chapter, Tourist Police in Phuket
❊ Disaster risk management-related government agencies, such as the Phuket Provincial Office of the Department of Disaster Prevention and Mitigation, Phuket Provincial Heath Office, Office of Labour Protection and Welfare in Phuket
❊ Tourism industry-related groups, such as the Phuket Tourist Association, Phuket Chamber of Commerce and Industry, Thai Hotels Association Southern Chapter
❊ Media agencies such as Radio Phuket, Thai Rath, Phuket Gazette
❊ Other related sectors, including transportation companies, food industries, tourist attractions and recreational facilities, small- and medium-sized enterprises, and insurance companies

The key actions identified in the strategy were organized into the different phases of disaster risk management – preparedness, response, recovery and prevention.

A key activity for preparedness was the preparation of a Phuket Tourism Crisis Management Plan and the establishment of an Emergency Operation Center. An action plan for media coordination and communication was another priority, to cover both during crises and at normal times, and included the launch of a campaign to promote the image of "Safe Phuket."

Phuket Tourism Risk Management Strategy and its Relation to Other Strategies
(Source: Phuket Province Tourism Risk Management Strategy 2007-2012)

The Phuket Province Tourism Risk Management Strategy 2007-2012 is not a stand-alone strategy; it has close linkages to the related national and provincial strategies and plans (see Figure 2).

It was proposed that key stakeholders would review the strategy annually to identify any amendments that may be necessary because of new developments.

| National Development Plan |
| National Tourism Development Plan |

| National Disaster Management Plan |
| Thailand Early Warning System |

Phuket Tourism Risk Management Strategy

| Phuket Tourism Destination Management Development Strategy |
| Strategy plan for Andaman Triangle Cluster Provinces (2005 - 2008) |

| Phuket Civil Defense Action Plan |
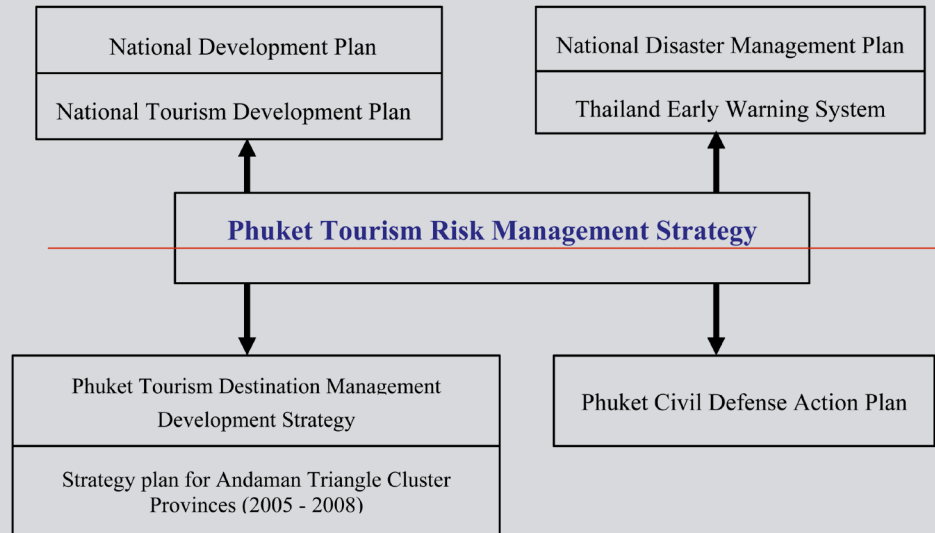
Naga City, Pioneer in Developing and Implementing a Local Disaster Mitigation Plan

Naga City's disaster mitigation plan is more than a decade old and yet its city government still implements and keeps it 'live' as of the publication of this book.

The mitigation plan was crafted using a multi-hazard risk assessment and a series of meetings and consultations with stakeholders. They identified floods and typhoons as the main hazards affecting Naga City, and the mitigation plan focused on minimizing the risks posed by these hazards.

The city eventually adopted a comprehensive and integrated strategy to address simultaneously the structural/physical vulnerability, as well as policy and institutional concerns, while bearing in mind the resource limitations.

Three interrelated program interventions were identified:

❋ Physical/Civil Works Development Program
❋ Land Use Policy/Legal Reforms Program
❋ Institutional Development Program

The Physical/Civil Works Development Program aimed to reduce the volume of floodwaters and duration of flooding through structural/physical mitigation measures. The proposed projects under this program included the Naga River Improvement Project; Naga City Drainage Rehabilitation Project; and Strengthening Lifeline Facilities Project.

The program phased structural mitigation measures over the ten-year period in the following manner:

Phase 1 – Immediate implementation of projects already underway or with approved funding that require only minimal design modification
Phase 2 – Comprehensive study of storm drainage and detailed architectural and engineering design of viable project components
Phase 3 – Implementation of viable project components

The Land Use Policy/Legal Reforms Program aimed to incorporate risk consideration into land-use plans, policies and regulations for existing and planned developments of the city. Short and long-term actions for this program were recommended in the disaster mitigation plan.

The Institutional Development Program aimed to mobilize and harmonize government and community resources and capacities towards a cohesive and participatory approach for DRR. Building on existing initiatives, it sought to encourage greater awareness and cooperation by the broad sector of society to provide direction and sustained effort for disaster risk management.

Projects included:

* Establishment of a flood database system for Naga
* A city-wide Information, Education and Communication Program
* Community mobilization and preparedness, including development of community-based DRR plans

See Table 2 for a summary of the actions and their estimated costs.

The local disaster mitigation planning process was an initiative of the Naga City Disaster Mitigation Project, a pilot project of ADPC's Asian Urban Disaster Mitigation Program, implemented jointly by the League of Cities and the Philippine Business for Social Progress (PBSP) between 1997 and 1999.

Its approach was to enhance the capacity of city officials to manage risk and apply mitigation skills and technologies, improve access to relevant techniques and knowledge, and improve the policy environment for disaster mitigation.

| Table 2 | Excerpt from Schedule of Activities and Cash Flow Requirements by Year |

ACTIVITIES	CASH FLOW BY YEAR (P Million)						
Institutional Development	1	2	3	4	5	6-10	total
1. Organizational Development	4.50	4.50	5.00	5.00	-	-	19.00
2. Establishment of Database System	2.90	5.00	1.20	1.20	0.60	-	10.90
3. IEC Program	1.50	1.50	1.50	1.50	1.50	-	8.50
4. Community Mobilization	1.00	1.70	2.70	2.70	-	-	8.10

(Source: Naga City Disaster Mitigation Plan, August 2001)

Hazard and vulnerability mapping, mitigation planning, training, establishment of institutional arrangements for DRR, and the incorporation of risk reduction in land-use planning were major components of the project. These served as foundations for DRR that the local government continues to build upon until today.

The Naga City Disaster Mitigation Project Unit coordinated the implementation of the disaster mitigation plan. A designated Project Officer from the Office of the City Mayor headed the Unit. The city government initially hired a local consultant to strengthen the technical capability of the project staff.

The Naga City Disaster Mitigation Council, created under Executive Order No.98-005 signed by the City Mayor on 2 June 1998, ensured the participation of different stakeholders in the mitigation planning and implementation processes. The Mayor chaired the Council.

To date, the storm drainage project is finished, and the city government utilized a World Bank grant for urban upgrading of relocation sites demarcated in the plan. The city government has used the plan to lobby for quick action to either remove or complete construction of a bridge that had scaffolding blocking the passage of river water into the sea. The city government also called for restaurants and fast food eateries to install oil traps in their kitchen drains (to prevent clogging of city drains), promote the regular cleaning of drains and sewers, and incorporate risk issues in their solid waste management.

Although the plan has never been formally revised or updated, some details of the proposed actions have been modified. The Naga City People Council were endorsed the changes prior to their implementation. The Naga City People's Council is composed of all accredited business, NGOs and people's organizations within the city, and one of its roles is to observe, vote and participate in the deliberation, conceptualization, implementation and evaluation of programs, projects and activities of the city government.

In evaluating progress made, the City Mayor has encouraged and ensured the participation of community members in monitoring and evaluating programs and projects.

The success of the mitigation planning in Naga City is due to the commitment of local government officials and the City Mayor in particular. With the leadership of Mayor Jesse M. Robredo, Naga City is recognized in the Philippines and abroad as a model local government unit and a center for innovations in local governance. *Asiaweek* magazine cited it as one of the most improved cities in Asia in recognition of its participative processes, strong democratic traditions and commitment to excellence.

Commitment beyond the city is important to sustain DRR efforts. Mitigating floods within Naga City calls for solutions well beyond its boundaries as the Bicol River runs through two provinces and dozens of municipalities. A wealth of data and recommendations has been generated by previous studies on flood control within the Bicol River Basin Area. Some of their recommendations have been implemented but many more remain to be put into action. Through Naga City's partnership with 14 neighboring municipalities, collectively known as the Metro Naga Development Council, the city government could access funds and implement the project on a basin-wide basis. Equally important is the role of Metro Naga in promoting balanced and sustainable growth within the area. National government also supported the implementation of mitigation measures by providing funds for large infrastructure projects.

Figure 3

Sangunniang Panglunsod
- Overall Policy Direction
- Approval of Ordinances
- Budget Appropriation

City Mayor
Overall Management of Project Implementation

Naga City Disaster Mitigation Executive Board (NCDMEB)
- Provision of Policy Directions
- Approval of Plans & Programs
- Coordinating Center for Program Implementation

Other Special Bodies
- Policy on Program Complementation

City Administrator
Assist the Mayor in the overall implementation of the project

Disaster Mitigation Management Unit
- Coordinating / Monitoring Center of Project Implementation
- Technical Secretariat to NCDMEB

Other City Government Office/Unit
- Provide Administrative / Technical / Financial Support as may be required

City Hospital
- Take the lead in the Medical Emergency Rescue Operations

City Health Office
- Implement Community Mobilization and Disaster Preparedness Program

CPDO
- Implementation & Management of Land Use & Zoning Planning
- Establish Data Base System

Information Office
- Implementation of IEC

Human Resource Office
- Implementation of Training Program

City Engineer
- Implementation Management of the Structural / Civil Mitigation Measures

City Agri/ENRO
- Naga River Watershed Reforestation Implementation

Barangay Councils
- Plan & Implement Community-Based Disaster Mitigation Program
- Take the lead in community preparedness program for evaluation/support services
- Establish Barangay Database system

Community Participants
- Participate in establishing CIPS

Bangladesh Develops Earthquake Contingency Plan

The Comprehensive Disaster Management Program implemented a project on "Earthquake Risk Assessment and Preparedness in Dhaka, Chittagong and Sylhet City Corporation Areas". This is a long-term multi-partner program led by the Ministry of Food and Disaster Management, and supported by the United Nations Development Programme, UK Department for International Development and the European Commission.

CDMP commissioned ADPC to provide technical support in earthquake risk assessment (the risk assessment process is described in Book 2.) Based on the earthquake risk scenarios created, a national-level contingency plan, three city-level plans, and nine agency-level contingency plans were developed to complement each other. Figure 4 shows the plans and their links with each other.

Contingency planning facilitates rapid emergency response by allowing stakeholders to:

❋ Consider the likely consequences of an emergency before it occurs
❋ Identify the key resources, both human and physical, that will be available to respond to the emergency
❋ Agree upon procedures and responsibilities of each government agency/department and private/non-governmental organization in order to promote efficiency and the optimal use of resources, and avoid duplication
❋ Strengthen the capacity of the emergency response team in advance
❋ Put in place institutional and coordinating mechanisms so that the contingency plan can be implemented effectively in an emergency.

In this case, the Inter-Agency Standing Committee 'cluster' approach was used as a framework for developing the contingency plans. Launched in 2005, the cluster approach aims to address gaps in response and enhance the quality of humanitarian assistance by strengthening partnerships and coordination between different organizations with a mandate to respond to disasters, including UN agencies, the Red Cross/Red Crescent movement and NGOs. It clarifies the division of labor among organizations, and defines their roles and responsibilities within the different sectors of the response.

Figure 4	Disaster Management Planning Framework in Bangladesh
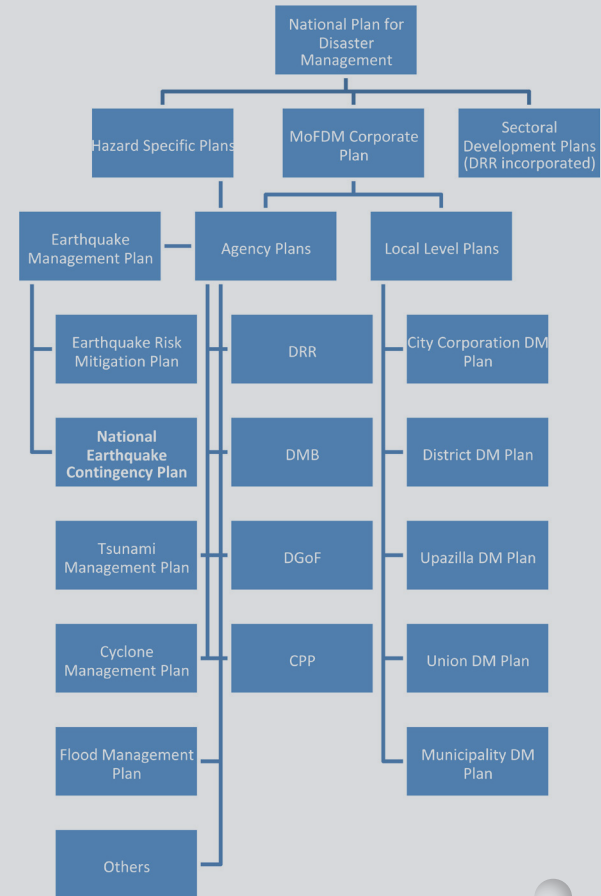
The nine clusters are:

* Overall Command and Coordination
* Search, Rescue and Evacuation
* Health
* Relief Services (food, nutrition, etc.)
* Shelter (including camp management)
* Water Supply, Sanitation and Hygiene
* Restoration of Urban Services
* Transport (road, rail, air, sea)
* Security and Welfare

In developing the contingency plans, the roles and responsibilities of individual agencies within each functional cluster before, during and after earthquakes were determined. In addition, the lead agency and support agencies for each cluster were identified.

Furthermore, ADPC and partners used GIS technology for spatial planning to enhance the contingency planning process. They mapped the location of evacuation shelters, emergency supplies and medical facilities, and the routes for evacuation.

The Planning Process

To develop the Earthquake Contingency Plan, a Core Team was formed to start up the process, get stakeholders involved and facilitate their participation, and compile input from different stakeholders into the plan. Figure 4 shows

A roundtable meeting attended by heads of relevant government ministries and agencies was organized to obtain their commitment by nominating focal points to participate in sector working groups to develop the contingency plan.

To develop, review and endorse the national contingency plan, the core team organized two stakeholder workshops at the national level involving representatives from different sectors. UN agencies and international NGOs were also involved in the process.

At the city level in Chittagong, Dhaka and Sylhet, stakeholder workshops were organized to prepare the city-level contingency plan based on the national-level contingency plan and results of the risk assessment.

At the agency level, a Contingency Planning Committee was established within each agency to lead the contingency planning process, and to distribute a questionnaire to assess the capacity of the different agencies for emergency response.

All completed planning documents were forwarded to the Ministry of Food and Disaster Management for adoption. These included earthquake contingency plans for the following entities:

* Bangladesh

Cities
* Chittagong City
* Dhaka City
* Sylhet City

Designated first responders
* Armed Forces Division
* Directorate General of Health Services
* Directorate of Relief and Rehabilitation
* Disaster Management Bureau
* Fire Service and Civil Defence

Utilities and lifelines service providers
* Bangladesh Telecommunications Company Ltd.
* Dhaka Power Distribution Company Ltd.
* Dhaka Water Supply and Sewerage Authority
* Titas Gas Transmission and Distribution Company Ltd.

At the same time, a number of disaster-related awareness raising and training events were organized for various stakeholders including decision makers and planners, schoolchildren and teachers, religious leaders, masons and bar-binders, and managers of critical facilities.

These events aimed to promote the development of an informed citizenry who are knowledgeable about their vulnerability to earthquake hazards and the options for reducing their risks - creating an advocacy group that will support plan implementation.

City-level stakeholders responsible for implementing the earthquake contingency plan conducted tabletop emergency response simulation exercises.

Sri Lanka Provides an Enabling Environment for Disaster Risk Reduction at the Local Level

On 18 December 2009, the Government of Sri Lanka issued a Gazette with the revised National Policy on Local Government. The policy officially mandates local governments to manage disaster risk, and states that a capacity development strategy for local government will be developed to ensure that officials are adequately equipped with the skills required including participatory planning (see Box 5). This is a breakthrough.

Box 5

Extracts from the National Policy on Local Government

4.1.4.8 The Policy considers the preservation and improvement of physical environment, of the area of jurisdiction, is the responsibility of the Local Government Authority, and thus, environment and hazard parameters should receive highest consideration in local planning.

4.1.4.9 The Policy shall also ensure that, as the planning authority of the area of jurisdiction, the local authority shall be pro-actively involved in disaster preparation, mitigation and management within the overall District Framework for disaster management. Obtaining technical guidance and assistance from related Ministries and allied technical authorities, the local authority shall identify the disaster-prone areas, potential disaster-risks and hazards and formulate a comprehensive, area-specific plan of action based on locally identified strategies and rapid response systems, having regard to the policy and operational guidelines issued for the purpose as per the Disaster Management Act.

4.4.2.3 Similarly, at the local government level, planning attention and care will be given to address the needs of women, children, and socially dependent and vulnerable populations such as the marginalized and semi-abled.

4.6.2.2 The Ministry will establish a National Strategy on Local Government Capacity Development that will place emphasis on planned development of local government capacity. Emphasis will be placed on skills development of local government personnel, by networking the training institutions, technical agencies universities, local government experts and the academia specialized in local governance and participatory planning and development.

Conclusion

The planning team/committee could work with senior-level government officials to begin integrating or 'mainstreaming' the newly adopted risk reduction goals and actions into the general operations of relevant government agencies and partner organizations (see Book 4).

At a practical level, a city can implement risk reduction projects more quickly and effectively by working within existing administrative mechanisms. For example, the Department of Public Works could adopt more rigorous procedures for inspecting and cleaning debris from streams and ditches. Instead of cleaning only after storms or complaints from citizens, the Department could require inspections of streams and ditches at least bi-annually.

More broadly, mainstreaming ensures that development programs and projects are disaster resilient. It also makes sure that programs and projects do not exacerbate vulnerability. Mainstreaming disaster risk reduction into development is an essential part of making cities and communities sustainable.

Annex
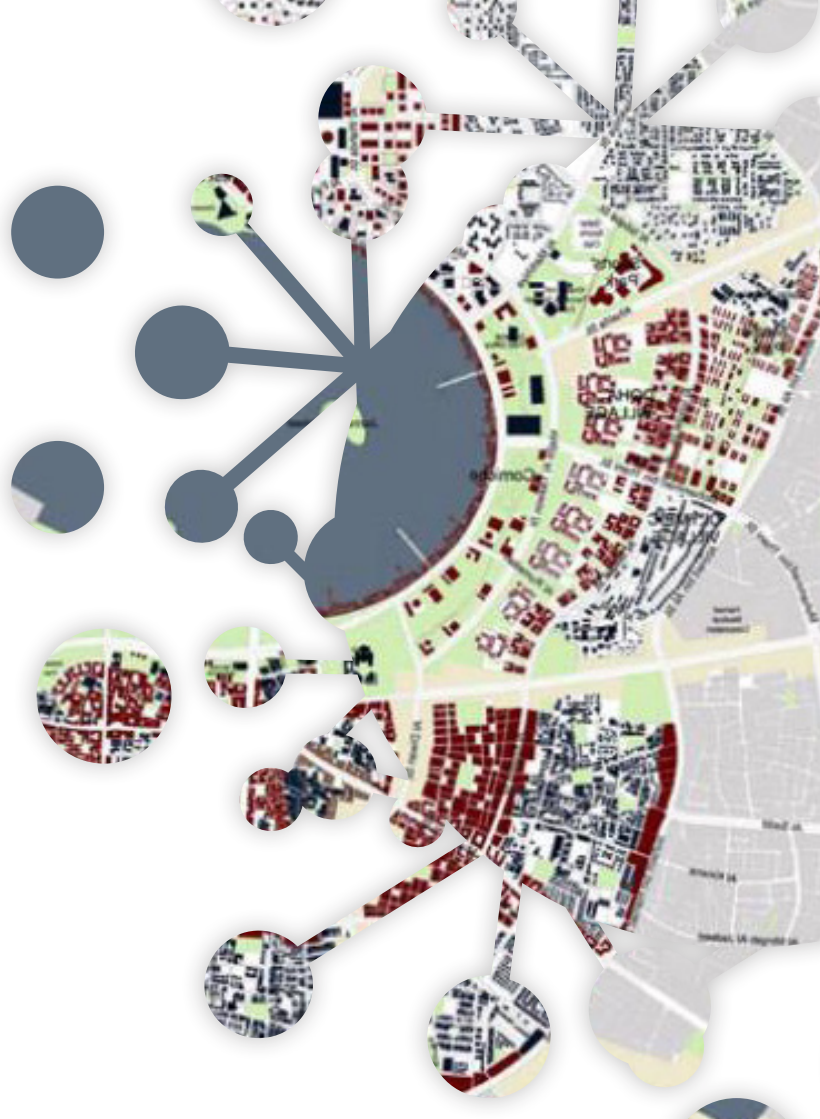
HFA Priorities and their Indicators for Local Authorities and Communities

HFA Priority	Task	Indicators
Making Disaster Risk Reduction a Priority	Engage in multi-stakeholder dialogue to establish foundations for DRR	A local/city multi-sector platform for DRR is functioning Political commitment
	Create or strengthen mechanisms for systematic coordination for DRR	Community participation and decentralized functions are ensured throughout the local authority
	Assess and develop the institutional basis for DRR	Policy instruments and tools to support national institutional and legal frameworks Legal and regulatory system
	Prioritize DRR and allocate appropriate resources	Dedicated and adequate resources are available to implement DRR activities within the local authority
Identify, Assess and Monitor Disaster Risks and Enhance Early Warning	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
	Review the availability of risk-related information and the capacities for data collection and use	Local/city and community systems
	Assess capacities and strengthen early warning systems	Local warning system for major hazards
	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
Building a Culture of Safety and Resilience	Develop a program to raise awareness of DRR consistent with that of the country	Effective program or strategy for public awareness and skills development
	Develop of utilize DRR training for key sectors based on identified priorities	Availability of education material and relevant training on DRR Skills, knowledge, attitudes and motivation
	Enhance the compilation, dissemination and use of DRR information	Access to information management and sharing on disasters Documentation on multiple risk assessments and disaster experiences, especially lessons learned Access to multiple resourcs

Reduce the Underlying Risk Factors	Environment: Incorporate DRR in environmental management	Policy, planning, operational interface between and among DRR, environmental management and climate change issues
	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
	Physical planning: Establish measures to incorporate DRR in urban planning and land use planning	Existence of appropriate codes and standards for buildings and land use planning, with effective compliance structures and mechanisms Risk-sensitive development planning and implementation
	Structure: Strengthen mechanisms for improved building safety and protection of critical facilities	
	Economic development: Stimulate DRR activities in production and service sectors	Policy for and implementation of DRR as part of economic development
	Financial/economic instruments: Create opportunities for private sector involvement in DRR	
	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
Building a Culture of Safety and Resilience	Review disaster preparedness capacities and mechanisms	Strong policy, technical and institutional capacities and mechanisms for disaster risk management at the local/city level
	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 programs Integration with emergency response and recovery Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-even 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

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glossary

Adaptation - The adjustment in natural or human systems in response to actual or expected climatic stimuli or
their effects, which moderates harm or exploits beneficial opportunities.

Capacity - A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability.

Climate Change - The Inter-governmental Panel on Climate Change defines climate change as: "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use."

Disaster - A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.

Disaster Risk Management - The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards.

Disaster Risk Reduction - The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

Exposure - People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses.

Hazard - A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Mitigation - Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.

Preparedness - Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

Prevention - Activities to provide outright avoidance of the adverse impact of hazards and means to minimize related environmental, technological and biological disasters. Depending on social and technical feasibility and cost/benefit considerations, investing in preventive measures is justified in areas frequently affected by disasters. In the context of public awareness and education, related to disaster risk reduction changing attitudes and behavior contribute to promoting a 'culture of prevention'.

Recovery - Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery (rehabilitation and reconstruction) affords an opportunity to develop and apply disaster risk reduction measures.

Response - The provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.

Risk - The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.

Vulnerability - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

About the guidebooks

Recognizing the important role local governments can play in reducing disaster risks, the Asian Disaster Preparedness Center has developed a series of "Urban Governance and Community Resilience Guides" to guide local governments in understanding disaster risks in the locality and in identifying measures to enhance their citizens' safety.

The intention is not to develop a technical guide, but rather to raise awareness of the challenges local governments face in reducing disaster risks. These guidebooks offer essential tools and possible solutions to make that will help local governments to make effective decisions.

The series, comprised of four guidebooks, is designed in such a way that they can be used as self-study material by individual readers, as a resource for participants in a training course or program, or as a reference for government officials. Each guidebook is a standalone book as well as linked to the others. Effort has been made in each guidebook to link with discussions in the other guidebooks in the series.

Each guidebook contains case studies and questions that are designed to enable readers or trainees to think reflectively on the concepts and issues presented, and draw on their own experience to benchmark the content. The aim is to make the content as closely relevant to their work experience as possible, and to enable readers to link the knowledge gained to their own experience in order to solve problems.

The first guidebook provides the basics of disaster risk management. Subsequent guidebooks in this series serve to provide the 'how-to' of disaster risk management. The topics include essential tools, good practices and step-by-step guides that are vital to the successful implementation of risk reduction projects in urban communities.

Book 1 demonstrates the potentially destructive impacts of various hazards and climate change on urban communities. It examines the causes of increasing urban risks, and stresses the urgency to act now in a collaborative and integrated manner involving all sectors of society. It shows the importance of understanding the unique conditions at the local level, and of harmonizing efforts over larger geographic areas.

Book 2 provides guidelines in selecting appropriate assessment methodologies to evaluate risks and support decision-making processes.

Book 3 outlines the planning process in managing urban disaster risks. This book focuses on the process of transforming the knowledge gained through various assessments into appropriate, effective and sustainable actions, towards safer urban communities.

Book 4 introduces the concept of 'mainstreaming' as the core framework for local government to reduce disaster risks. This guidebook demonstrates how to integrate the principles of disaster risk management into development goals, governance arrangements and action strategies.

Do you have comments or suggestions about the guidebook? If yes, kindly send us an email at *adpc@adpc.net*

ADPC resources on mainstreaming DRR into local governance

RCC Working Paper, "Mainstreaming Disaster Risk Reduction: A Road Towards Sustainable Urban Development and Creating Safer Urban Communities,": http://rccdm.net/sites/default/files/MainstreamingDRR%20Urban%20Local%20Governance-Working%20Paper.pdf

Webpage on PROMISE country demonstration projects on mainstreaming DRR into local governance: http://www.adpc.net/v2007/Programs/UDRM/PROMISE/PROGRAM%20COMPONENTS/Component3/Component3.asp

Regional Course on Mainstreaming Disaster Risk Reduction into Local Governance: http://www.adpc.net/v2007/Programs/UDRM/PROGRAMS%20&%20PROJECTS/CAPACITY%20BUILDING/TRAINING/05GDRR.asp

PROMISE

The development of the guidebook series was supported by the Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE). PROMISE ran from 2005 to 2010, with city demonstration projects in Bangladesh (Chittagong and Jamalpur), Indonesia (Jakarta), Pakistan (Hyderabad), the Philippines (Dagupan and Pasig), Sri Lanka (Kalutara and Matara), and Viet Nam (Da Nang). Support came from the local governments of each city, and from the Office of Foreign Disaster Assistance of the U.S. Agency for International Development (USAID/OFDA). This paper was developed under the component "Regional Information and Networking." Learn more about PROMISE at: http://www.adpc.net/v2007/Programs/UDRM/PROMISE.

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