ISDR

International Strategy for Disaster Reduction

HFA

Words Into Action:

Implementing the Hyogo Framework for Action

Document for consultation
Draft November 2006

United Nations

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Note on the consultative process

This draft edition of “Words into Action: Implementing the Hyogo Framework for Action” is a consultative version of a publication to be presented at the first session of the Global Platform for Disaster Risk Reduction, which will be held in Geneva, 5-7 June 2007. The consultation draft is incomplete and a work in progress. It is being shared with you and other key actors involved in disaster risk reduction, including partner agencies and experts, national platforms and regional agencies to request your comments to improve the Guide.

In particular we request:

- General comments, corrections and suggestions for essential additions;
- Short case studies for the “illustrative initiatives” section of each task exemplifying implementation of the task described;
- Literature and website references, tools and other resources for the “Where to find further guidance” section of each task.

Please send your comments to hfa@un.org. The electronic version of the Guide is available at: http://www.unisdr.org/eng/hfa/hfa.htm

The production of this Guide was undertaken to assist States in implementing the Hyogo Framework for Action in response to paragraph 33 (b) of the Hyogo Framework for Action, which specifically requests the ISDR system to “support the implementation of this Framework, identify gaps in implementation and facilitate consultative processes to develop guidelines and policy tools for each priority area, with relevant national, regional and international expertise."

In response, at the side of the eleventh[1] and twelfth[2] sessions of the Inter-Agency Task Force on Disaster Reduction (IATF/DR), held in Geneva in May and November 2005 respectively, consultation meetings took place to discuss the design of an implementation guide for the Hyogo Framework for Action.

The initial concept and structure was developed by consultant Fouad Bendimerad. The first draft by him was extensively discussed at the IATF/DR-12. It was revised by the UN/ISDR secretariat, following further inputs, and then reviewed at an international workshop convened for this purpose in Geneva in July 2006. The inputs of the workshop have been incorporated into the present consultative draft document.

Chapter 5, Strengthening Disaster Preparedness for Effective Response, was thoroughly discussed with Office for the Coordination of Humanitarian Affairs (OCHA) and other parties such as United Nations International Children's Emergency Fund (UNICEF) during the consultative meeting Disaster Preparedness Guidelines and Indicators for the Hyogo Framework for Action. This meeting was convened by OCHA in Geneva, in November 2006, as part of a parallel process undertaken at the request of the Inter-Agency Standing Committee on humanitarian matters (IASC) to develop guidance for the humanitarian sector on the implementation of the Hyogo Framework for Action.

1 http://www.unisdr.org/eng/task%20force/tf-meeting-11th-eng.htm
2 http://www.unisdr.org/eng/task%20force/tf-meeting-12th-eng.htm

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Introduction

Background

In recent years, there has been no shortage of reminders that reducing risk and improving the management of natural hazards must be given the highest priority. The need for a global disaster reduction strategy has been underscored by a string of disasters ranging from the Indian Ocean tsunami, to droughts in Africa; from hurricanes in the United States and Central America to typhoons triggering landslides in South East Asia; from fires and floods in Europe to earthquakes in Pakistan and Indonesia.

In January 2005, just a few weeks after the tsunami claimed over 250,000 lives, 168 governments gathered in Kobe, Japan, at the second World Conference on Disaster Reduction and adopted the ***Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters***[3]. The Hyogo Framework for Action lays out a detailed ten-year plan to substantially reduce losses and to make risk reduction an essential component of development policies and programmes. It represents international recognition that disaster risk reduction is an issue for development, environmental resource management and scientific agenda. Disasters undermine development achievements, impoverishing people and nations. Without effectively tackling disaster risk the Millennium Development Goals will not be achieved. For that reason the Johannesburg Plan of Implementation[4] for sustainable development includes commitments related to disaster and vulnerability reduction and improved early warning.

In the Hyogo Framework for Action, governments as well as regional, international and non-governmental organisations commit to:

1. Ensure that disaster risk reduction is a national and local priority;
2. Identify, assess and monitor disaster risks and enhance early warning;
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels;
4. Reduce the underlying risk factors; and
5. Strengthen disaster preparedness for effective response at all levels.

The Hyogo Framework for Action assists the efforts of nations and communities to become more resilient to and cope better with the hazards they face. Although the primary responsibility for its implementation rests with governments, collaboration and cooperation between all stakeholders is crucial. In this context, the United Nations International Strategy for Disaster Reduction (UN/ISDR) plays an important role in supporting national policies and coordination mechanisms, facilitating regional and international coordination, stimulating the exchange of good practices, reviewing and documenting progress towards implementation of the Hyogo Framework for Action and producing practical tools to help decision-makers promote and implement disaster risk reduction measures in their respective countries and regions. One such tool is this Guide.

It should be noted that even when effective disaster reduction measures are in place, there would often be an element of risk that is residual or cannot be managed because it is either too costly or technically unfeasible to eliminate. Preparedness, an important component of disaster risk reduction deals with residual and unmanaged risk and aims at developing or strengthening the necessary measures and capacities so that a timely, coordinated and effective response can be organised when a disaster occurs. Priority action 5 of the Hyogo Framework for Action deals with this component.

3 The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters could be downloaded from the UN/ISDR website at: http://www.unisdr.org/eng/hfa/hfa.htm

4 Johannesburg Plan of Implementation to download at: http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

Purpose and scope

This document was developed as a succinct 'how-to' manual. It is intended as a practical resource offering hands-on advice on useful strategies and good practices in disaster risk reduction, drawing on illustrative examples from around the world.

The target audience includes government/civil servants and decision makers, leaders and practitioners (both primary and secondary). Nevertheless, it is hoped that the Guide will be useful for international, regional and non-governmental organisations, as well as for educators and trainers, for representatives of the various sectors and for others in making disaster risk reduction everyone's business.

Scope and applicability

The Guide does not attempt to cover all risks, nor all elements of and approaches to disaster risk reduction. In recognition of the fact that 'not one size fits all', users are encouraged to take from this manual what is useful in their respective national context and to apply the general concepts and measures presented hereafter in a way that fits their own reality and existing policies and systems. Different countries have reached different stages with respect to implementing the objectives of the Hyogo Framework for Action. It is not expected that any government will undertake all of the tasks suggested in the Guide or that they be undertaken in sequential order. This Guide can help governments to assess where they stand in the process, build on existing experience and structure, identify possible gaps and decide on useful next steps to take. This document should be seen as a flexible and adaptable tool to facilitate the implementation of the recommendations of the Hyogo Framework for Action.

Structure of the Guide

This manual is structured in a way that reflects the key priorities and recommendations of the Hyogo Framework for Action. For each of the Hyogo Framework for Action's five priority areas it suggests a few tasks or actions, providing step-by-step guidance for implementation, suggesting supportive complementary measures, as well as providing examples from around the world and links to additional sources of information. Users are invited to pick and choose among the tasks and undertake tasks that best suit their country's circumstances and disaster risk reduction efforts to date.

A great deal of work needs to be done to implement the Hyogo Framework for Action and there will be many paths that will lead toward this goal. The proposed 21 tasks in this Guide do not cover every option, but instead have been selected as primary areas where demonstrated advancement in disaster risk reduction is needed. The ISDR system, comprising diverse partners at national, regional and international levels, has developed experience in these tasks, as is illustrated in the examples in each section.

Aims of the Hyogo Framework for Action

The 168 governments that developed the Hyogo Framework for Action not only agreed on a clear set of objectives and recommended actions, but also set themselves an ambitious ten-year timeframe and identified the roles and responsibilities of the different stakeholders involved.

Recognising their primary responsibility for ensuring the safety of their citizens, governments committed themselves to:

- Developing national coordination mechanisms;
- Conducting baseline assessments on the status of disaster risk reduction;
- Publishing and updating summaries of national programmes;
- Reviewing national progress towards achieving the objectives and priorities of the Hyogo Framework for Action;
- Working to implement relevant international legal instruments; and
- Integrating disaster risk reduction with climate change strategies.

In addition to their efforts at home, governments also agreed to intensify international disaster risk reduction cooperation through and with regional and international organisations. The Hyogo Framework for Action clearly outlines the tasks to be tackled at the regional level, including:

- The promotion of regional disaster risk reduction programmes;
- Regional data gathering, information sharing and progress monitoring; and
- The establishment of regional collaborative centres and regional early warning systems.

International organisations—and the United Nations International Strategy for Disaster Reduction in particular—have been called upon to encourage and support these national and regional efforts by supporting data collection and forecasting, promoting information exchange and international coordination and by providing advice and substantive assistance to governments, to help them implement the recommendations of the Hyogo Framework for Action. This manual is one of the tools developed for that purpose.

Guiding principles for the implementation of the Hyogo Framework for Action

Past experience in disaster risk reduction has led to the widespread acceptance of a set of fundamental principles, which also inform the Hyogo Framework for Action. They include:

- Integration of disaster risk reduction in development planning and service delivery: Refers to the recognition that disasters undermine hard-won development gains, destroying lives and livelihoods and sinking many into poverty. Government can integrate disaster risk reduction measures into development strategies and planning, requiring risk assessment to guide development planning and allocating resources for risk reduction in sectoral development plans. Because of the enormous development losses suffered around the world from disasters, development banks and international assistance institutions now place great importance on integrating risk reduction in development.

- A multi-hazard approach: Refers to the recognition in policy and practice that a location or population may be exposed to a variety of hazards that may be natural or human-induced in origin and characterised by hydro-meteorological, geological, biological, technological or environmental forces and conditions. A multi-hazard approach involves translating this knowledge into disaster and risk management, political strategies, professional assessments and technical analysis, operational capabilities and public understanding of the varied or combined potential risks likely to occur and that attention or resources are not focused on single, selected or only partially considered hazardous events, alone.

- Community participation and sharing of responsibilities: Effective disaster risk reduction requires the active involvement of all stakeholders, including community members and especially affected populations, in the design and implementation of activities. The design of such activities requires a strong appreciation of who is vulnerable and why, and measures that can be taken to strengthen the resilience of disaster-prone communities including the extent to which indigenous coping mechanisms are sustainable. This invariably includes a people-centred approach that is sensitive to gender, culture and other context-specific issues that undermine or empower particular groups and individuals. A participatory approach is, by definition, strong on community-level engagement and the allocation of resources and support that facilitates locally based action. Such an approach also helps ensure that changes in vulnerability and perceptions of risk, including in the wake of a disaster, are assessed and factored into institutional processes, risk assessments, early warning, education, response and recovery processes. Decisions and activities that are informed by local perspectives are important factors in the pre-emption of avoidable problems and secondary effects in the wake of a disaster.

- Decentralisation: Refers to any act by which a central government formally cedes powers to actors and institutions at lower levels in a political, administrative and territorial hierarchy. Decentralisation reforms typically are promoted to achieve six broad objectives: dismantling or downsising central government, consolidating national unity, consolidating central power (by shedding risks and burdens), increasing local participation and local democracy, improving the efficiency and equity of local service delivery and strengthening local government[5]. As disaster risk reduction activities are implemented at the local level, devolving political, administrative and fiscal power to provincial, municipal and community levels helps to ensure that disaster risk reduction measures match local needs.

5 Ribot, J.C., (2004): Waiting for Democracy: The politics of choice in natural resource decentralisation, World Resources Institute.

- Public-private partnerships: Refers to a voluntary association of government, business, professional and/or academic institutions and other elements of civil society that address commonly held objectives through collaborative actions. When common threats from natural hazards and mutual benefits of reducing risks are well understood, private-public partnerships could emerge as a tool to combine resources for disaster reduction and contribute to building more resilient communities through joint actions.

- National responsibility: Each state has the primary responsibility for its own sustainable development and for taking effective measures to reduce disaster risk, including for the protection of people on its territory, infrastructure and other national assets from the impact of disasters. Citizens have a right to be informed of disaster risk.

- Gender: Gender is a cross-cutting concern requiring attention throughout the planning, implementation and evaluation phases of the activities adopted to implement the Hyogo Framework for Action. Toward this end, the need for sex-differentiated data is stressed as is the need to analyse the gender division of labour and power relationships between the sexes as these may impinge on the success or failure of all risk reduction strategies. As gender is a central organising principle in all societies, the daily routines of women and men across and within societies put women and men, girls and boys, differently at risk. While gender concerns in disasters cannot be equated with poverty or the challenges of sole parenting alone, it is evident from past disasters that low-income women and those who are marginalised due to marital status, physical ability, age, social stigma or caste are especially disadvantaged. It must be recognised, too, that gender also shapes the capacities and resources of women and men to minimise harm, adapt to hazards and respond to disasters when they must. At the individual, household, neighbourhood and community level, women and men are differently affected by hazards and disasters and often involved in different ways in local or governmental initiatives to reduce the risk of disaster. At the grassroots level, women's organisation to manage risk is especially significant due to women's roles as users and managers of environmental resources and economic providers as well as caregivers and community workers. Gender is also an important dimension of the workplace environments in which disaster risk reduction activities are undertaken.

- Cultural diversity: Refers to the need for awareness and care in disaster risk reduction policies given differences among groups of peoples in language, socio-economic and political systems, religion and ethnicity and their historical relationship with nature. Relationships among people are embedded in unequal power relations with different sets of values: some groups become dominant and others marginalised. Disaster reduction activities need to be based on more attentive participatory approaches involving local communities, as local socio-political structures and cultural conditions, such as kinship arrangements, customary rights, community and family networks and systems of leadership nearly always persist during disasters. It is important that these are not undermined.

- Capacity building: Considering that capacity may be understood as the ability of people, organisations and society as a whole to manage their affairs successfully, capacity building refers to the processes whereby people, organisations and society as a whole strengthen, create, adapt, unleash and maintain capacity over time. The promotion of capacity development for disaster risk reduction entails what partners or collaborators from both more immediate associations as well as external supporters can do to support, facilitate or catalyse capacity development and related change processes. This includes more than what a conventional use of the word "training" connotes and extends considerably beyond the provision of external or specialised technical assistance. Such issues as opportunities for appropriate and sustainable technology transfer, information exchange, network development, management skills and identification of added professional references or resources all contribute to capacity development. Capacity building also is dependent on the creation and maintenance of enabling environments applicable to personal situations, the organisations or institutions through which people work and in the wider social or governmental contexts in which they work.

- Customisation: Refers to the need to adapt suggested approaches to the particular country setting. States vary greatly in their political, socio-economic, cultural, environmental and risk characteristics. Policies and measures that succeed in reducing risk in one setting may not work in others. Customising involves making use of others' experience, for instance through the review of lessons learned, to implement policies and activities that are appropriate for the local context.

- Monitoring, testing and evaluation: Monitoring and evaluation are crucial management functions that apply to all aspects of disaster risk reduction policy and implementation, although they are often considered only as an afterthought. At their most basic applications, they need to be planned and are necessary to evaluate the prevailing state or condition of any disaster risk reduction awareness, policies or structures to determine a benchmark or documented point of reference to identify and eventually measure future accomplishments. There is similarly a need to monitor the on-going process and evaluate the effectiveness of existing or planned country disaster risk reduction policies and programmes over their lifetimes, or the extent to which they may be contributing to building the population's resilience to disaster risks.

Managing the suggested tasks

The tasks suggested in the Guide can be considered discrete projects as an individual or a group will be in charge of their implementation. Project management usually involves the following:

1. Developing an internal workplan: This first step is the most crucial for the manager so he/she can determine the resources, both human and financial, required to undertake the task recommended, as well as the time needed to carry out the full project and its subtasks;

2. Getting agreement/endorsement: Ensuring the support of higher branches of power can be very helpful in securing the required resources and in raising the project's political profile;

3. Identifying stakeholders: Stakeholders (those interested or affected) vary for every project. Please see task 1.1. for further guidance on this part;

4. Convening a planning and organisational meeting: All stakeholders should be included for this step, which involves jointly developing and agreeing on:
   - The scope of the task, its objectives and goal;
   - The workplan (adapted from the internal workplan to include other stakeholders);
   - Individuals and agencies' roles and responsibilities;
   - Methods for undertaking the task;
   - Methods for reporting intermediate results;
   - The communication and dissemination strategies for the task during and after completion;
   - The strategy for implementing recommendations, ensuring future implementation and monitoring progress.

5. Carrying out the task: The manager's role may include ensuring that all team members and subgroups have the required resources to carry out their duties, monitoring progress, generally facilitating the work (for instance by enabling meetings and access to information) and keeping the wider set of stakeholders informed;

6. Consultation and outreach: Project success often hinges on whether stakeholders agree that the project meets their needs and expectations. To ensure the project stays on track and to foster buy-in, it is good practice to inform, consult and wherever appropriate integrate stakeholders' views. By engaging a broad audience more stakeholders will identify and seize opportunities for implementing disaster risk reduction;

7. Disseminating results: This step involves communicating the results of the completed task within government and through the media (see chapter 3) to the general public;

8. Following-up: This task varies by project and may include advocacy to ensure implementation of project recommendations and plans.

Monitoring progress

A small set of questions to assess progress is suggested for each of the five Hyogo Framework for Action priority areas/chapters of the Guide—these are also listed in Annex III. These questions or indicators are intended to provide a simple, shorthand means to enable those involved in implementing activities to monitor progress on the tasks. Users may need to adapt the indicators and develop additional ones to better suit national needs. Further information on indicators is being developed and will be provided in a separate document entitled Hyogo Framework for Action Guidelines for Measuring Progress on Disaster Risk Reduction guide, which will be available in early 2007.

Chapter 1:

Making disaster risk reduction a priority

Hyogo Framework for Action Priority 1
Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.

Implementing Hyogo Framework for Action Priority 1 requires fostering political commitment and community participation in disaster risk reduction; developing or strengthening the institutional, legislative and operational mechanisms for disaster reduction; integrating disaster risk reduction into development planning and decentralising responsibilities for disaster risk reduction.

States can undertake a number of tasks to implement Hyogo Framework for Action Priority 1. This chapter recommends the following tasks:

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

The following questions may be useful as indicators to assess progress in implementing the Hyogo Framework for Action Priority 1:

- Is a multi-sectoral disaster risk reduction platform operational?
- Does a disaster risk reduction legal framework (constitution, laws, and governmental system) exist?
- Does a national disaster risk reduction policy framework (policies, strategies and plans) exist?
- Are dedicated resources available for disaster risk reduction either as a separate budget line item or integrated in sector budgets?

1.1 Engage in Multi-Stakeholder Dialogue to Establish the Foundations for Disaster Risk Reduction

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to bring together the country's disaster risk reduction stakeholders to engage in a structured discussion so as to develop or strengthen the country's disaster risk reduction efforts. The dialogue may evolve into a multi-stakeholder disaster risk reduction national platform.

Why it's important

Engaging the relevant stakeholders in a dialogue about disaster risk reduction will create an inclusive environment for developing national consensus for disaster reduction. Such dialogue enhances societal awareness of hazards, risk and risk reduction. It can empower vulnerable stakeholders, including women and the socially and economically disadvantaged and promote action by local governments, private entities, women and community groups and other non-governmental organisations through information sharing and coalition building. Dialogue can also lead to inter-institutional, multi-sectoral collaboration on risk reduction at the regional level.

How it relates to other priority tasks

This task is closely linked to all other tasks in this Guide, as it is the basis upon which the success of disaster risk reduction efforts rests. Engaging relevant stakeholders in a dialogue provides an enabling environment to address the complexity of disaster risk reduction and address stakeholders' concerns. Such exchange fosters ownership in a common vision for disaster risk reduction.

Multi-stakeholder describes the participation of the individuals, groups or organisations that have an interest or investment in the actions that will be taken to reduce disaster risk.

Disaster risk reduction champion is an influential person interested in disaster risk reduction, willing to take action to make disaster risk reduction a public priority. A champion may be any determined, top-level government official, a professional in one of many fields or a community activist.

B. How to do it

Recommended steps
In setting up a multi-stakeholder dialogue consider the following steps:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Identify key stakeholders, that is, those who should play a role in the planning, promotion or implementation of risk reduction strategies and programmes;
3. Identify existing governmental or civil society organisations mechanisms to assess if the dialogue could be anchored therein or benefit from existing networks;
4. Identify one or more disaster risk reduction champions, that are influential persons interested in disaster risk reduction willing to lead in making disaster risk reduction a public priority;
5. Convene interested and affected parties;

1.1 Engage in Multi-Stakeholder Dialogue to Establish the Foundations for Disaster Risk Reduction

6. Agree on shared goal and objectives, scope, agenda, working arrangements and ground rules;
7. If appropriate, establish multi-disciplinary working groups or committees to work on specific issues;
8. Establish a mechanism for overall coordination of the work effort, setting and monitoring of milestones and integration of outputs;
9. Develop an arrangement for sustaining the dialogue on a continuing basis;
10. Set up a system for disseminating discussion results to key officials, participating organisations and the public, as well as for receiving and acting on input from those outside the process.

A national platform, inter-agency standing committee or council that meets regularly and actively pursues its agenda can greatly assist in building common understanding and effective cooperation among key organisations. Typically, the platform or committee oversees the development and implementation of the disaster risk reduction plan and monitors progress. Successful inter-institutional mechanisms usually have top-level support from chief executive level in government and stakeholder organisations, a clear mandate, proactive leadership, a strong core group and secretariat and incentives for action.

C. Responsibilities and resources

Who should be involved?

Some countries have already established national systems, such as national platforms for disaster reduction. These coordination mechanisms can lead the process of convening stakeholders for the dialogue. If a national platform has not been formed, the process of establishing a national dialogue may lead to the creation of a national platform. The following types of organisations play a role in implementing disaster risk reduction and may have an interest in participating in the dialogue:

- Planning and policy making organisations, including legislative and executive entities such as key ministries and concerned national agencies;
- Owners and operators of economic and social infrastructure, including lifeline critical for people's survival and continuous function of communities;
- Public agencies responsible for overseeing implementation of codes, regulating, sanctioning or providing incentives; key humanitarian and social services organisations;
- Relevant professionals including land-use planners, architects, engineers, developers, builders, advocates, educators, trainers, researchers, etc.;
- Financial institutions including those that provide mortgage loans or insurance, communications technology, etc.;
- Non-governmental women's and community groups including advocates for residents for high-risk environments;
- Media organisations (those that can communicate warnings and educate the public);
- Technical and scientific institutions or services dealing with risk identification, hazards monitoring, early warning and preparedness.

What conditions facilitate the task?
Conditions that facilitate the task include:

- Support of chief executives of government, community leaders and stakeholder organisations;
- A champion who can galvanise the support of government and society;
- Careful meeting planning (time, location and conditions) to enable community participation;
- A communications facilitator to run the meeting;
- Background information to inform the discussion (such as risk assessments mapping community groups active in high-risk areas, compilation of laws, regulations, policies, strategies, plans and resources, as well as a summary of institutional arrangements for disaster risk management, land use and urban planning, economic development and environmental protection).

D. Illustrative initiatives [further examples sought]

Multi-stakeholder dialogue
Kingdom of Morocco

The Kingdom of Morocco undertook a national dialogue by holding the First National Workshop on Catastrophe Risks in 2004. The workshop brought together representatives from the relevant ministerial departments, local and provincial governmental institutions, the private sector, non-governmental organisations, professional associations and civil society organisations, academia, media and international organisations. The workshop took stock of the existing situation in terms of disaster risk management, identified several weaknesses across sectors and in the legal, institutional and organisational systems, as well as in the areas of knowledge development, education and awareness raising. Following this workshop, several dialogue platforms were activated and a National Coordination Committee was established. The Division of the Environment at the Ministry of Land Use Planning, Water and Environment undertook secretarial duties. Several thematic workshops took place over the following year and several round tables and discussions took also place with selected stakeholders. Further, concerned ministries and agencies were requested to report on their programmes and plans for disaster risk management and to develop specific priorities and budget requirements for their proposed action plans.

This dialogue generated and energised a broad discussion and improved the inter-communication and exchange of ideas and issues between a wide spectrum of stakeholders. The proceedings from each workshop and seminar were published and distributed among participants for comment. Several reports and documents on specific issues and topics were generated. The dialogue culminated with the development of a comprehensive report on disaster risk management and a proposal for a national strategy for disaster risk reduction and a national plan for emergency response.

For further information: Direction de la Surveillance et Prevention des Riques, Departement de l'Environnement, Ministere de L'Amenagement du Territoire, de l'Eau et de l'Environnment, Kingdom of Morocco. http://www.minenv.gov.ma/

1.1 Evaluate legal, institutional, and policy framework

Creative coalition building
Chile

In Antofagasta, Chile, a disaster risk reduction workshop brought together representatives of the port, the airport, the civil registry, a local museum, the insurance industry, the teachers' association and a minister, in addition to expected stakeholders such as the representatives of the Red Cross Society, hospital, fire, law enforcement and public works. The new participants shared information with their networks throughout the community and have become constituents and advocates for disaster risk reduction.

Example of the Andean Committee for Disaster Reduction and Response to Disasters (CAPRADE)
Venezuela, Colombia, Ecuador, Peru and Bolivia

The Community of Andean States (CAN) created in 2002 the Andean Committee for Disaster Reduction and Response (CAPRADE) integrated by (1) the Ministries of Foreign Affairs, (2) the Ministries or the National planning institutions and (3) the Civil Defense or Disaster reduction and response Systems of Venezuela, Colombia, Ecuador, Peru and Bolivia.

The main goal of this Committee is to reduce the impact of natural and human-induced disasters in the Andean region based on a systematic coordination and collaboration to promote strategies, policies, plans and activities for disaster reduction, preparedness, response and recovery.

CAPRADE elaborated in 2004 the Andean Strategy for Disaster Reduction and Response (EAPAD), which includes national and thematic programmes and sub-programmes by sectors to be implemented in the above mentioned five Andean countries.

For further information: Visit the following websites at:
http://www.comunidadandina.org/normativa/dec/d591.htm
http://www.comunidadandina.org/normativa/dec/DEC591.pdf
http://www.comunidadandina.org/normativa/dec/d529.htm

E. Where to find further guidance [further references and tools sought]

Alesch, D.J., Petak, W.J. (2001): Overcoming Obstacles to Implementing Earthquake Hazard Mitigation Policies: Stage 1 Report, Technical Report MCEER-01-0004, Multidisciplinary Center for Earthquake Engineering Research.

United Nations Development Programme: A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management-Executive Summary. To download at: http://www.undp.org/bcpr/disred/documents/wedo/ils/ils_esummary.pdf

1.2 Create or strengthen mechanisms for systematic coordination for disaster risk reduction

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to develop with stakeholders a mechanism for coordinated, effective action for disaster risk reduction.

Key objectives of national platforms

The overarching goal of a national platform is to contribute to the building of its country's resilience to disasters for the sake of sustainable development, by achieving the following key objectives:

- Serve as a custodian of a nationally adapted and agreed Hyogo Framework for Action to ensure the sustainability of disaster risk reduction activities;
- Enhance collaboration and coordination amongst disaster risk reduction stakeholders;
- Foster an enabling environment for developing a culture of disaster prevention as disaster risk reduction is every citizen's responsibility;
- Advocate disaster risk reduction and the necessity for and importance of integrating disaster risk reduction into development policies and programmes;
- Facilitate the integration of disaster risk reduction into socio-economic development policies, strategies and activities and development aid policies and programmes.

Why it's important

Disaster risk reduction is a cross-cutting and complex issue, which requires political commitment, public understanding, scientific knowledge, responsible development planning and practice, a people-centred early warning system and disaster response mechanisms. A multi-stakeholder national platform not only can have the combined knowledge, skills and resources required for disaster risk reduction and its mainstreaming into development planning and practice, but also can provide the following value-added services:

- Serve as a coordination tool to facilitate a multi-stakeholder approach and dialogue and improve the implementation of disaster risk reduction activities at national level through a consultative and participatory approach;
- Engage higher-level policy makers through advocating and catalysing for disaster risk reduction;
- Stimulate the active participation of development actors and planners for the integration of disaster risk reduction into the sustainable development agenda, including the Millennium Development Goals (MDGs), Poverty Reduction Strategy Papers (PRSPs) and Common Country Assessment/UN Development Assistance Framework (CCA/UNDAF), building on previous experience of integrating environmental issues into development;
- Provide opportunities for civil society, especially non-governmental organisations, to dialogue and contribute to disaster risk reduction at national and community levels;
- Facilitate dialogue and partnership between the international community, including the UN System and national authorities (through the established national platform);
- Facilitate information and knowledge sharing and technology transfer among the members of national platforms and between national platforms;
- Increase access and linkages of existing disaster risk reduction actors with other relevant bodies nationally, regionally and globally.

Definitions

National platform for disaster risk reduction: Nationally owned and led arrangement in the form of a forum or committee of multiple stakeholders, which serves as an advocate of disaster risk reduction at different levels, provides analysis and advice on areas of priority requiring concerted action through a coordinated and participatory process.

Source: UN/ISDR, Guiding Principles for National Platforms for Disaster Risk Reduction

1.2 Create or strengthen mechanisms for systematic coordination for disaster risk reduction

How it relates to other priority tasks

Because national platforms are mechanisms by which countries can address inter-related social, economic and environmental problems, this task is closely related to all of the different tasks identified to implement the Hyogo Framework for Action.

B. How to do it

Forming a national platform

In developing a national platform first make use of the steps suggested in task 1.1, *Engage in Multi-stakeholder Dialogue to Establish the Foundations for Disaster Risk Reduction.*

National platforms should build on any existing disaster management or development planning system and facilitate the interaction of key development players from line ministries, disaster management authorities, scientific and academic institutions, non-governmental organisations, national society of Red Crescent, the private sector, opinion shapers and other sectors closely related to the disaster risk reduction agenda. Whenever possible, national platforms may wish to invite participation of donor agencies and country-based UN organisations.

The institution or ministry leading or hosting the national platform should (1) be a permanent structure in a sufficiently high position to group together and coordinate the participation of all relevant partners (horizontal participation) with a national coordination mandate in disaster management or disaster reduction and (2) should have capacity for strong leadership and capacity to leverage political commitment and mobilise resources for and knowledge on disaster risk reduction.

Activities undertaken by national platforms
Some of the activities that a national platform can undertake include:

1. Establishing baseline information for disaster risk reduction, including disaster profile, national policies, strategies, capacities, resources and programmes;
2. Identifying trends, gaps, concerns and challenges and setting forth accepted priority areas in disaster risk reduction;
3. Benchmarking progress made in promoting disaster risk reduction and its mainstreaming into development planning and practices;
4. Developing result-oriented work plans of national platforms for coordinating the implementation of disaster risk reduction in line with the Hyogo Framework for Action;
5. Coordinating joint efforts among national platform members to reduce vulnerability of people at relatively high risk;
6. Documenting lessons learned and good practices and sharing the findings (including promoting twinning of national platforms);
7. Monitoring, recording and reporting of disaster risk reduction at national and community levels in line with the Hyogo Framework for Action;
8. Advocating the development and adoption of policies and legislation for disaster risk reduction;
9. Working towards a better integration of disaster risk reduction into humanitarian assistance and development programmes and concepts.

C. Responsibilities and resources

Who should be involved?

National platforms for disaster risk reduction is a coordination mechanism that, in order to be effective and sustainable, needs to be built through a nationally-owned and led participatory process that includes different sectors' perspectives and actions, and a multi-stakeholder composition. See task 1.1 for a complete list of relevant stakeholders. These may include:

- Government (national, state/provincial and local) such as from the major line ministries, such as home/interior, social welfare, civil defence, finance and planning, development, health and education;
- Representatives from civil society and organisations having a role in disaster risk reduction: development, environmental protection, including non-governmental organisations, private business federations, utilities, banking and insurance and training institutions for civil servants, community and women's groups;
- Media and academic institutions;
- Technical and scientific institutions or services dealing with risk identification, hazards monitoring, early warning and preparedness.

What conditions facilitate the task?
Consider the following processes to facilitate the task:

- Political process involves ensuring strong political commitment from the top leadership;
- Technical process involves activities such as developing knowledge bases on disaster risk reduction, developing a methodological framework for the national platform including a set of disaster reduction indicators;
- Participatory process implies the full involvement of relevant groups, including government, private sector, non-governmental organisations and academic organisations;
- Resource mobilisation process involves the availability of resources required for the development of national platforms for disaster risk reduction and its planned tasks.

Official recognition of national platforms for disaster risk reduction
As officially designated national platforms express the interests of various national and local stakeholders in disaster risk reduction, they can serve as effective instruments for promoting disaster risk reduction more widely at the international level based on their individual experience and in cooperation with the ISDR system. There is value in publicising the formation of a national platform by officially notifying it, its designated purposes and composition and the related contact information to the UN/ISDR secretariat, the UN Resident Coordinator in the country and by other professionally valued means such as through the creation of a designated website.

D. Illustrative initiatives [further examples sought]

The national platform for natural hazards (PLANAT)
Switzerland

In 1997, the Swiss Federal Council Parliament founded the national platform PLANAT, with the aim to improve prevention. PLANAT has three main missions:

Strategic work: PLANAT works on a strategic level on prevention. The platform is highly engaged in protecting the Swiss population, its natural environment and considerable material assets effectively against natural hazards. Protective measures are reconsidered and documented on periodically.

1.2 Create or strengthen mechanisms for systematic coordination for disaster risk reduction

Creation of awareness: PLANAT works towards a long-term shift in the management of natural hazards. The committee promotes the shift from solely averting danger to developing a culture of risk reduction. It makes sure that measures are being taken which are ecologically compatible, socially just and economically efficient. This cultural shift should make it possible to coherently discuss all prevention questions concerning natural hazards in the present and the future.

Coordination: PLANAT aims to avoid duplication and to an improved use of synergies. PLANAT exchanges knowledge and experience on a national as well as on an international level.

PLANAT has completed the first step of developing a comprehensive and interlinked strategy for improved protection against natural hazards, as well as the second step of analysing the current situation and proposing an action plan with measures. A third step will include implementing these measures.

For further information: Visit PLANAT website at: http://www.cenat.ch/index.php?nav=1,1,1,1&l=e&userhash=20928205

Example of inter-ministerial collaboration
Republic of Uganda

In Uganda, the Department of Disaster Management and Refugees in the Office of the Prime Minister is responsible for multi-sectoral coordination and collaboration in disaster risk reduction. The Department is also the secretariat for an inter-ministerial policy committee that gives coordinated policy direction in disaster management. With UN/ISDR support, a national platform of disaster focal points from relevant ministries, such as environment, water and lands, health and education was established to plan and implement disaster risk reduction mitigation and response initiatives. The national platform, known as the Inter-Ministerial Technical Committee, brings together the sectoral disaster focal point officers assigned to mainstream disaster reduction issues into sectoral work plans and budgets. These officers chair sectoral working group forums, each of which has in place sectoral plans. Although the Inter-Ministerial Technical Committee does not include civil society it is being replicated at the district level. It has been successful at engaging international support (from United Nations Development Programme and German Technical Cooperation) to integrate crisis management and disaster risk reduction in sustainable development. The Government of Uganda has also incorporated disaster risk reduction into its Poverty Eradication Action Plan.

For further information: Department of Disaster Management and Refugees, Office of the Prime Minister, Republic of Uganda, Uganda National Report and Information on Disaster Risk Reduction Efforts for the World Conference for Disaster Reduction, 2004. Uganda's National Disaster Preparedness Policy and Institutional Framework is available at: www.opm.go.ug

Policy change & capacity building through the establishment of a national platform
Madagascar

The Hyogo Framework for Action 2005-2015 has been a turning point for disaster reduction in Madagascar, a cyclone-prone big island off the southeast coast of Africa. The simple wording of the Hyogo Framework for Action provided a clear new direction to disaster risk reduction activities undertaken by the Madagascar's National Relief Council (CNS - the country's national agency for disaster reduction) and the Malagasy National Platform for disaster risk reduction.

HFA Create or strengthen mechanisms for systematic coordination for disaster risk reduction **1.2**

Madagascar already had a National Strategy for Risk and Disaster Management (SNGRC in French). The wording of the Hyogo Framework for Action helped Malagasy government officials to draft the Government decree enforcing the strategy. The decree was adopted in mid-2005, providing a separate national budget allocation worth 230.000 USD to the National Relief Council and the establishment of National Council for Disaster Risk Reduction.

The Malagasy National Platform was involved from the outset in the country's Poverty Reduction Strategy Paper (PRSP) revision process. And in July 2006, disaster risk reduction was mainstreamed into the Madagascar Action Plan (MAP), which replaced the PRSP, through a "2007-2012 Action Plan for disaster risk reduction in Madagascar" based on the Priority five of the Hyogo Framework for Action.

In terms of capacity building, from July 2005 to October 2006 some 900 key supporters, promoters and implementers including government and non-government officials, religious leaders and journalists have been trained in the country's 22 regions.

Cyclone Boloetse, which hit southern Madagascar in early 2006, resulted in no fatalities, which demonstrated enhanced disaster preparedness, achieved through simulation exercises for different types of hazards carried out in the country's 22 regions (flood, tsunami, wildfire, volcanic eruption, etc.) and the contingency plans for 22 regions that were finalised, tested and adopted.

Furthermore, national platform members were trained on disaster risk reduction. Disaster risk reduction is being mainstreamed into school curricula by developing a student textbooks and a teacher's guide. The national platform is developing its own web site to facilitate information sharing.

For further information: Visit the website of the Conseil National de Secours at: http://www.madagascar-contacts.com/cns/ or contact Mr Jacky Randimbiarison via email: jacky@netclub.mg

E. Where to find further guidance [further references and tools sought]

UN/ISDR, (2006): Guiding Principles: National Platforms for Disaster Risk Reduction. To download at: www.unisdr.org/eng/country-inform/ci-guiding-princip-p.htm

UN/ISDR website for additional information on national platforms and country reports at: http://www.unisdr.org/eng/country-inform/ci-guiding-princip.htm

Websites of selected national platforms:

- Costa Rica: Comisión Nacional de Prevención de Riesgos y Atención de Emergencias (C.N.E.), see: http://www.cne.go.cr/
- Germany: German Committee for Disaster Reduction, see: http://www.dkkv.org
- Madagascar: Conseil National de Secours, see: http://www.madagascar-contacts.com/cns/
- Nigeria:NEMA - the professional association of and for state emergency management directors, see: http://www.nemaweb.org/
- Japan: Cabinet Office - Government of Japan, see: http://www.cao.go.jp/index-e.html

1.3 Assess and develop the institutional basis for disaster risk reduction

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to evaluate and develop the country's legal, institutional and policy framework for disaster risk reduction. The ultimate goal of the task is to develop a sustainable formal basis for achieving a safer and more sustainable society in the face of risk. This task will help to:

1. Identify capacities and gaps in the legal, institutional and policy frameworks for disaster risk reduction;
2. Develop a baseline from which to measure and monitor progress;
3. Design effective plans and programmes to improve on identified weaknesses and gaps.

Why it's important

A country's constitution, laws and governmental system provide the basis to develop plans and organisational arrangements for all areas of disaster risk reduction. Assessing such elements can reveal resources and linkages that were underutilised or untapped. To identify areas requiring improvement and to foster buy-in for proposed changes, participatory self-assessment by those is more effective, rather than an evaluation by outsiders. Because institutions, policies and the factors affecting risk are dynamic and changing, evaluation should be periodically revised.

A national disaster risk reduction policy framework can guide local governments in the development of a complementary local processes to establish local level disaster risk reduction policies, strategies and plans. Ideally it would evolve into a systematic process for evaluating alternative disaster risk reduction actions and reassessing priorities in all areas, as well as for monitoring policy application and performance. The focus of this task is on process because the participation of all stakeholders is necessary to ensure the effective implementation of the policy framework.

Effectiveness of disaster risk reduction
Disaster risk reduction policies and plans can be said to be effective if the policies and practices of all sectors incorporate risk-reducing elements, if political support is developed for disaster risk reduction expenditures and regulations, and if the agencies and people responsible for implementation know what is expected of them and are willing to undertake action.

Definitions

Disaster risk management (DRM): The systematic process of using administrative decisions, organisation, 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 (DRR): The conceptual framework of elements considered with the possibilities to minimise 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.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

How it relates to other priority tasks

The task of ensuring that the country has an effective framework for disaster risk reduction is closely linked to all other tasks because a good framework enables the implementation of disaster reduction measures.

Institutional and legislative systems for disaster management
The links between good governance and risk management have been widely acknowledged. Good governance is not only an important prerequisite for disaster risk management, but institutional and legislative systems for disaster risk management are by definition part of governance structures and systems and should be guided by the same principles. The need to further strengthen institutional capacities for disaster risk management, however, remains a crucial challenge in many countries, despite considerable progress achieved to date.

Source: UNDP Bureau for Crisis Prevention and Recovery

B. How to do it

Recommended steps
The following steps may be useful in evaluating and developing or strengthening the national framework for disaster risk reduction:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. With stakeholders from within the agency and others, hold a planning and organisational meeting;
3. Gather information through documentary sources and the review of studies of past disaster experiences and lessons learned as well as interviews with government officials and other relevant stakeholders from academia and non-governmental sectors;
4. Analyse and synthesise the information, identifying strong and weak aspects of the existing systems and opportunities for improvements. In particular analyse institutional arrangements and resources for disaster risk reduction and identify how disaster risk reduction is or may be included in national development planning processes;
5. Prepare recommendations for national, provincial and local government with all relevant stakeholders, including how disaster risk reduction can be integrated in development planning;
6. Convene meetings to discuss results of the evaluation and recommendations;
7. Systematically review disaster risk reduction policy options and determine priorities for action. Develop specific objectives for the programmes that will implement the policies and strategies;
8. Construct a plan comprising the recommended changes to policies and practices and describing the proposed disaster risk reduction programmes;
9. Jointly draft and circulate a statement of the vision, policy, strategies and implementation plan.

A note on process and obstacles
Decision-making processes should be close to the communities at risk, have clear lines of accountability based on established responsibilities and create an enabling environment for multiple stakeholders to contribute to disaster risk reduction. Institutional and legislative systems for disaster risk management are important components of "good governance" and should be guided by the same basic principles: accountability, participation, rule of law, effectiveness and sustainability.

Yet even a very good process may not succeed in converting recommendations into changes in the legal framework because of lack of political commitment, lack of resources, conflicting priorities and interests of stakeholders. Some ways to overcome these obstacles are to advocate with political leaders, launch a media campaign or engage in public-interest litigations in situations involving public safety.

1.3 Assess and develop the institutional basis for disaster risk reduction

Questions to ask

In setting the scope of the evaluation ask:

- What are the evaluation's areas of focus (such as planning process, land use planning, environmental management, construction regulation or economic development)?
- What issues will be evaluated (such as the degree of devolution of power to provincial and local governments and other entities or the role of gender in disaster risk reduction)?
- Are there risk reduction initiatives already underway that would be suitable for inclusion in the evaluation?

In deciding on the evaluation's methodology consider:

- How will information be gathered systematically? Would criteria and indicators be useful?
- How will interviews be conducted?

To assess the effectiveness of existing legal arrangements ask:

- Are mandates and roles, including lines of command and coordination, clear?
- Are legal arrangements sensitive to indigenous customary law?
- Are there rules and regulations for implementation?
- Are there appropriate sanctions and enforcement mechanisms?
- Do explicit provisions for financial support exist?
- Are sub-national legal instruments sensitive to local content?
- Are the laws integrated into the national development framework and plans?
- Do communities actively participate in planning, implementing, monitoring and evaluating?

To assess the effectiveness of administrative structures ask:

- Are the lines of authority and basis for authority clear?
- Are lines of reporting clear and direct?
- Does everyone concerned understand his/her role and responsibilities?
- Is the authority to act delegated as close as possible to the level where action must be taken?
- What weaknesses exist in both vertical and horizontal linkages between governmental levels, entities and jurisdictions?

To assess the effectiveness of the policy framework ask:

- What can be learned from past experiences?
- What gaps or issues were reported in recent disasters?
- Are activities closely linked to policy directions?
- Is there a follow up process in place?

Combining structural and non-structural measures

Combining structural and non-structural measures
A comprehensive package of policies and programmes should include structural and non-structural measures. Non-structural measures include capacity building and awareness raising. For instance, a programme to develop a communications system that provides real-time seismic or hydrologic information to the government may include training of government officials to use the information for decision-making and media training to enable the dissemination of useful and timely information to the public. Structural measures are visible and can generate enthusiasm at the local level. For instance, a key building (city office, clinic, or school building) could be reinforced to better withstand seismic activity or equipment could be purchased.

HFA Assess and develop the institutional basis for disaster risk reduction **1.3**

In developing a common vision for a disaster risk reduction framework ask:

- How are issues of under-employment, social equity, poverty alleviation and emerging risks related to disaster risk reduction policy? Which disaster risk reduction policies and plans can address these concerns to maximise benefits?

In gathering risk information ask:

- Which hazards affect the population and its livelihoods? Which conditions exacerbate the vulnerability of the population, critical facilities and other infrastructure, the environment, economic development?
- What legal, institutional, political, social, cultural, economic and environmental factors support or impede disaster risk reduction? What are areas of institutional strength, weakness and gaps?
- What is the current capacity for implementation of disaster risk reduction measures?

In evaluating disaster risk reduction policy options ask:

- How will this measure contribute to the objectives? Is it socially and politically acceptable? Is it financially and technically feasible? What kind of regulatory or administrative framework would it require?

In developing priorities ask:

- What resources can be mobilised currently?
- Which actions can be budgeted from within existing programmes?
- How can funds be mobilised in the future to fund expansion/additional programmes?
- Which actions could be supported in existing development processes?
- Do the policies proposed respond to the last disaster or address current and future risk?
- Does the portfolio of policies proposed balance long-term and short-term measures, risk reduction and disaster response measures and structural (e.g. structural reinforcement) and non-structural measures (e.g. mason training)?
- How will the system enable monitoring and progress evaluation? How will the public access information on progress?
- What provisions must be integrated to foster periodic review and update of the policy framework?

To determine priorities for action consider constructing a matrix listing possible changes to policies and practices and proposed initiatives to reduce risk. The matrix should identify what is to be done, who is responsible, what resources are to be dedicated and the timeframe.

C. Responsibilities and resources

Who should be involved?
It is not always possible or even useful to involve everyone. To carry the evaluation and policy development forward, consider including representatives from:

- Government (national, state/provincial and local) such as from the ministries of home/interior, social welfare, civil defence, finance and planning, development, health and education;
- Organisations having a role in disaster risk reduction: development, environmental protection, private business federations, utilities, banking and insurance and training institutions for civil servants, community and women's groups;

1.3 Assess and develop the institutional basis for disaster risk reduction

- Academia from social and technical sciences: universities that have disaster risk management faculties or those related to architecture, civil engineering, community, as well as economic development training centres;
- Legal and public policy experts for evaluating and developing the framework.

What conditions facilitate the task?
Conditions and resources that may be useful include:

- Political and public support;
- Executive and organisational support for the evaluation and commitment to an inter-disciplinary and inter-institutional team;
- Funding and human resources for the evaluation and framework development;
- Access to documentary sources-such as laws, executive orders, regulations, policies and plans-and if possible, studies of past disaster experiences and lessons learned.

D. Illustrative initiatives [further examples sought]

Disaster risk reduction legal and institutional framework development
Sri Lanka

In 2005, the Sri Lanka Disaster Management Act No. 13 was enacted, providing the legal basis for a new disaster risk management system and establishing a high-level National Council for Disaster Management (NCDM) chaired by Sri Lanka's president. The Ministry of Disaster Management was also established and accorded the lead role in directing strategic planning for disaster risk management, with the Disaster Management Centre as the lead agency. The Ministry developed a holistic strategy or "road map" as a framework for identifying and coordinating multi-stakeholder efforts over the next ten years entitled: Towards a Safer Sri Lanka: A Road Map for Disaster Risk Management, published by the Disaster Management Centre, Ministry of Disaster Management, supported by UNDP, December 2005.

For further information: Contact the Disaster Management Centre, Ministry of Disaster Management & Human Rights, Government of Sri Lanka at: dmcsl@sltnet.lk, dgdmcsl@gmail.com

Disaster risk reduction law
People's Republic of China

The Law on Earthquake Disaster Preparedness and Reduction was approved by the National People's Congress and signed by the President of the Republic, effective 1 March 1998. The law provides a holistic approach to disaster management with stress on prevention and linkages to the state plan of national economic and social development. Responsibility for leadership is ascribed to all levels of government and agencies at each level are charged with carrying out earthquake disaster preparedness and reduction work in accordance with their own assigned functions. There are specific provisions for earthquake monitoring and prediction, seismic resistant construction, development of citizen awareness and capabilities for rescue. Requirements for national, local and agency emergency plans and guidelines for post-earthquake relief and reconstruction are included. The law also specifies sanctions for non-compliance with seismic design codes, abuse of power, withholding or embezzling seismic disaster relief funds and goods.

Multi-stakeholder development of a policy framework
Philippines

Metropolitan Manila partnered with local and international institutions to prioritise and organise the implementation of a disaster risk management master plan (DRMMP) process. The process engaged a wide group of stakeholders including various functional and organisational levels of the government, other entities not under local government authority such as regional/provincial or central government, utility companies and health care providers, among others.

First, a city profile of Metropolitan Manila was developed to synthesise information regarding hazards and risk factors, governance and other elements of the socio-political and economic context for disaster risk reduction and the characteristics of the current disaster risk management system within the greater urban area. The profile establishes baseline information that is validated and updated through consultations with stakeholders and includes sound practices currently contributing to disaster risk management in Metro Manila.

A series of meetings and discussions engaged policy makers, managers and stakeholders in discussions of options, a proposed framework, understanding the constraints and development of a realistic implementation plan.

Applying the DRMMP concept in Metro Manila has been undertaken through the following initial steps: (1) integrate risk information related to major hazards, (2) communicate the risk, (3) develop ownership of and consensus on key actions and plans, (4) take steps to enhance the legal framework and develop institutional capacity (at various levels) for implementing disaster risk reduction programmes and measures and engage institutions into a comprehensive and coordinated planning process. Stakeholders decided to focus on strengthening the legal and institutional system and building greater local capacity for disaster risk management. Input received from local stakeholders resulted in the development of a work plan of collaborative actions to be undertaken jointly by the Metropolitan Manila Development Authority, other stakeholders and the project team comprised of the Earthquakes and Megacities Initiative (EMI), Pacific Disaster Center (PDC) and the Earthquake Disaster Mitigation Research Center Team 4.

For further information: Contact Dr. Renato Solidum, Director of the Philippine Institute of Volcanology and Seismology (PHIVOLCS), or visit their website at: http://www.phivolcs.dost.gov.ph/default.htm

Example of disaster risk reduction policy frameworks developed around the world

In India a series of devastating disasters including the 1993 Latur earthquake, 1999 Orissa cyclone, and 2001 Bhuj earthquake triggered several initiatives to revise national policies and institutional arrangements for disasters. The Government formed a high-powered Committee on Disaster Management Plans (HPC-DMP) which adopted a holistic approach to disaster risk management planning, formed a multi-sectoral National Committee on Disaster Management chaired by the Prime Minister and engaged in a process of developing disaster risk reduction mission and vision statements, a national policy and various plans.

For further information: UN/ISDR, (2004): Living with Risk, pp. 83-5 or the HPC Report.

In Iran interest largely from the scientific and technical sector sparked the development of a national disaster risk reduction policy. Through the efforts of the International Institute of Earthquake Engineering and Seismology (IIEES) and others, an Iran Earthquake Risk Mitigation Program was implemented through efforts of government officials, scientists, engineers, builders and the public, under the supervision of the High Council on Risk Reduction in the Planning and Management Ministry of Iran. In 2003, the Council of Ministers ratified the Integrated Disaster Plan of

1.3 Assess and develop the institutional basis for disaster risk reduction

Iran pursuant to a proposal submitted by the IRI Red Crescent Society. The structure includes a national disaster task force chaired by the Minister of Interior, a national preparedness committee, as well as parallel structures at the provincial and city levels.

For further information: UN/ISDR, (2004): Living with Risk, pp. 117-118.

Disaster risk reduction institutional framework and evaluation
Colombia

In the Colombian capital of Bogotá, the disaster reduction and emergency response system comprises 41 governmental, community and private organisations with specialised risk and emergency personnel in specific areas (health, social services, city development, city planning, rescue groups, etc.). The system is managed and coordinated by the Dirección de Prevención y Atención de Emergencias (DPAE). Economic resources are provided through a city fund for emergency prevention supported by 0.5% of the taxes that the district collects, along with other dedicated funding. DPAE continuously evaluates its performance with the goal of enhancing its institutional capacity for disaster reduction. To communicate evaluation results to other stakeholders, and particularly to the lay community so as to promote a participatory process, DPAE has developed a simple matrix. The matrix attributes a smiling face, a neutral face or a frowning face to performance in disaster risk reduction for various hazards for the criteria of knowledge, prevention and mitigation, preparedness and emergency, rehabilitation and reconstruction and risk transfer.

For further information: Visit DPAE website at: www.fopae.gov.co

E. Where to find further guidance [further references and tools sought]

Indicators of Disaster Risk and Risk Management Program for Latin America and the Caribbean
: The Inter-American Development Bank engaged a group of experts, coordinated through the Universidad Nacional de Colombia, Manizales, to develop and apply a system of indicators of risk and risk management to evaluate legal and institutional mechanisms and policies, as well as factors affecting risk. The tool enables an analytical and systematic approach to risk management decision making. The system has been applied at the national level in a range of countries, at the provincial and local level in Bogotá and in Barcelona. For a collection of project reports see: http://idea.unalmzl.edu.co

Performance Monitoring and Evaluation TIPS
: The United States Agency for International Development (USAID) developed a four-page, to-the-point booklet with useful tips on conducting a participatory evaluation. To download at: http://www.usaid.gov.

UNDP, (2004): UNDP Support to Institutional and Legislative Systems fro Disaster Risk Management. To download at: http://www.undp.org/bcpr/disred/documents/publications/casestudy/ils.pdf

UNDP/BCPR, Provention Consortium Secretariat, UN-HABITAT, UNV, UN/ISDR, (2005): Governance: Institutional and policy frameworks for risk reduction. Thematic Discussion Paper Cluster 1. To download at: http://www.unisdr.org/wcdr/thematic-sessions/WCDR-discussion-paper-cluster1.pdf

1.4 Prioritise disaster risk reduction and allocate appropriate resources

A. Understanding the task

What's the purpose of the task?

The purpose of this task is to ensure implementation of the national disaster risk reduction policy framework (see task 1.2) through the allocation of roles and fulfilment of responsibilities for disaster risk reduction and the integration of disaster risk reduction into laws, plans and programmes of governmental and non-governmental organisations in all sectors.

Why it's important

This task aims to embed disaster risk reduction into the day-to-day business, policies and actions of organisations' concerned with economic development, poverty reduction, infrastructure operation, environmental management, education, etc. When risk is considered in development investment decisions and in the design and operation of projects, the cost of disaster risk reduction is lower. Disaster risk reduction depends on the capability of organisations to plan and implement the activities that make the most sense in their own sector. Organisations can be empowered to undertake disaster risk reduction through training; scientific and technical information about hazards, vulnerability and exposure; access to workable strategies and solutions to disaster risk problems; and access to resources for implementation. This process of building institutions —i.e. building the working organisations, policies, practices, networks, agreements, etc.—is known as "institutionalisation".

How this task relates to other priority tasks

While task 1.2 seeks to develop or strengthen the legal, institutional and policy framework, this task aims to operationalise it. The task is also closely linked to chapter 4, which recommends integration of disaster risk reduction into key sectors.

Financing disaster risk reduction

Dedicated funding mechanisms for disaster risk reduction are essential for integrating disaster risk reduction into policies, plans and programmes. Countries may choose to set aside 10 percent of development funds toward a mitigation fund to support activities that incorporate hazard-resistant or vulnerability-reducing elements into ongoing development projects. Government departments can compete for these funds by submitting applications of innovative and priority mitigation projects to the fund.

B. How to do it

Recommended steps

Actions for implementing disaster risk reduction include:

1. Formalise the assignment of responsibilities for disaster risk reduction activities to organisations through law, implementing regulation, executive order or a disaster risk reduction plan;
2. Establish or strengthen a focal point organisation through authority, responsibility, human resources, training and support;
3. Develop or strengthen an inter-organisational committee to coordinate disaster risk reduction activities among different institutions, for instance by formalising a national dialogue (see task 1.2) into a national platform;

1.4 Prioritise disaster risk reduction and allocate appropriate resources

4. Provide training opportunities and tools to increase organisations' skills and capacities to carry out assigned functions (see task 3.3);
5. Earmark funding for disaster risk reduction within operating and capital budgets, institute fiscal incentives for disaster risk reduction initiatives and tap pooled resources;
6. Ensure local governance systems for disaster risk reduction are clearly defined, resourced and integrated into other levels and initiatives;
7. Recognise and award champions in disaster risk reduction planning and activities;
8. Ensure that laws and policies stipulate mechanisms for compliance, control and reporting of disaster risk reduction implementation;
9. Promote the development of insurance schemes that provide coverage to highly-vulnerable populations, promote mitigation through premium incentives and reduce government liability in case of disaster.

Questions to ask
In institutionalising disaster risk reduction ask:

- Do existing institutions charged with response and relief understand their broader disaster risk reduction responsibilities?
- Do institutions charged with life safety and economic and social infrastructure understand and accept their specific disaster risk reduction responsibilities for hazard assessment, vulnerability analysis and risk reduction?

C. Responsibilities and resources

Who should be involved?
Disaster risk reduction institutionalisation and mainstreaming involves:

- Public entities and officials that legislate or adopt the disaster risk reduction policies or programmes at national and local levels;
- Organisations charged with implementation;
- Organisations that mandate others to take action or provide incentives for others to take action;
- Private organisations like corporations, financial institutions and insurers;
- Public-interest advocates and community-based organisations that can assist in implementation and provide political momentum.

D. Illustrative initiatives [further examples sought]

Legal, institutional and policy response to flooding
Vietnam

Vietnam has developed a comprehensive system of organisations from central to local government in response to centuries of floods, comprising elected provincial, district and village People's Committees and a network of women's unions, which contribute to the hierarchical flow of information. At the central level, the Central Committee for Flood and Storm Control, established in 1990, is responsible for developing programmes and plans for disaster reduction in coordination with other organisations, implementing disaster mitigation and coordinating with international organisations to increase cooperation in disaster reduction activities. Devastating flooding in 1999 led to the establishment of the Natural Disaster Mitigation Partnership (NDM-P), an institutional arrangement to formally facilitate cooperation and coordination in central Vietnam. A memorandum of agreement signed by a number of

government departments, international agencies, donors and non-governmental organisations provides support for a range of priority projects that are included in the signatories' development strategy (see http://www.undp.org.vn/ndm-partnership/NDM-Partners.htm). In 2002, the Government introduced the "Living with Flood" concept that became the strategy for disaster risk reduction in the Mekong River Delta, which includes short, medium and long-term measures to reduce flood risk and contribute to socio-economic stability and sustainable development.

Source: Asian Disaster Preparedness Center's Primer on Disaster Risk Management in Asia, 2005, pp. 58-9, 165.

Generating community ownership and self-reliance
China

Institutionalisation and mainstreaming are about developing ownership of disaster risk reduction, and in China, legislation is helping to generate community-level ownership and self-reliance. China's Law on Earthquake Disaster Preparedness and Reduction (1998) provides that government at all levels should publicise knowledge about earthquake disaster preparedness and reduction, improve citizens' awareness and develop citizens' capability for self protection and rescue in case of earthquake disaster. In Shanghai, the local government employs television, broadcasting, popular poster paintings and earthquake rehearsals and drills to popularise rescue techniques and self-protection measures.

Developing processes for national disaster risk reduction issues
India

The Government of India has instituted a successful process for developing national disaster risk reduction mission and vision statements, draft national policy and plans. This includes: (1) a bill on National Disaster Management, (2) setting up of the National Disaster Management Authority with overall responsibility for disaster mitigation, prevention and response and (3) decentralising disaster management by strengthening authorities at provincial and district levels.

For further information: Visit the Indian national disaster management website at: http://www.ndmindia.nic.in/

E. Where to find further guidance [further references and tools sought]

UNDP, A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management. The study report reviews five component dimensions of institutional and legislative systems and presents useful principles of good governance, major lessons learned from the study in 19 countries and recommendations. To download at: http://www.undp.org/bcpr/disred/documents/wedo/ils/ils_esummary.pdf

Chapter 2:

Identifying, assessing and monitoring risk and enhancing early warning

Hyogo Framework for Action Priority 2:
Identify, assess and monitor disaster risks and enhance early warning.

Implementing Hyogo Framework for Action Priority 2 requires collecting disaster risk reduction data, the use of risk maps, systems of indicators of risk and vulnerability, data and statistical loss information. It also requires developing early warning systems that are people-centred and well-integrated into decision-making processes. It involves developing and sustaining capacities and infrastructure to observe, analyse maps and forecast hazards, vulnerabilities and disaster impacts. Finally it calls for the assessment, monitoring and sharing of information on regional and emerging risks and the rapid dissemination of early warnings. Many elements of chapter 2 are closely linked with chapter 5: Strengthening disaster preparedness for effective response.

States can undertake a number of tasks to implement Hyogo Framework for Action Priority 2. This chapter recommends the following tasks:

1. Review the availability of risk-related data* and the capacities for their collection and use;
2. Establish an initiative for countrywide risk assessment and analysis;
3. Assess capacities and strengthen early warning systems;
4. Develop communication and dissemination mechanisms for disaster risk information and early warning.

The following questions may be useful as indicators to assess progress in implementing the Hyogo Framework for Action Priority 2:

- Is there a strategy for data provision for disaster risk reduction?
- Is there a risk assessment or risk map available at country and community level? Does it identify both hazards and vulnerabilities and are risks identified by sector?
- Are people-centred early warning systems in place for the country's major hazards?
- Does the system reach the most vulnerable and cover the full territory?
- When warnings are issued, do people know what to do? Do people have access to safer places?

* **Data:** The information required for disaster risk reduction includes quantitative data on the physical, social, economic and environmental factors that are relevant to hazards and their impacts on communities. Geophysical data may need to be gathered continuously, whereas socio-economic data, such as population, class, ethnicity, gender, age, physical ability and religion, should be gathered periodically through sampling surveys, as part of national statistical surveys of special research. Quality assurance systems and accessible databases are essential elements of good data programmes.

2.1 Review the availability of risk-related data and the capacities for their collection and use

A. Understanding the task

What's the purpose of this task?

- To identify capacities and gaps in existing processes for gathering, analysing and disseminating data and information on hazards and vulnerability;
- To build understanding of existing and potential risks throughout society;
- To enable the development of a baseline to monitor progress on risk assessment and early warning;
- To strengthen risk assessment and early warning systems.

Why it's important

Data collection and dissemination processes allow decision makers and the public to understand the country's exposure to various hazards and its social, economic, environmental and physical vulnerabilities. Such information, disseminated in an appropriate and timely manner, allows people to take action to reduce risk. The evaluation of existing hazard and vulnerability information and the process for collecting and disseminating such information will describe current state-of-knowledge, strengths and gaps, thus allowing the development of a strategy to improve relevant processes.

How it relates to other priority tasks

Carrying out an assessment will reveal gaps, incomplete or outdated risk information for the country, enabling the development of a strategy to improve information collection and dissemination. This task is closely linked to the establishment of an initiative for countrywide risk assessment (task 2.2), assessing capacities for and establishing effective early warning systems (task 2.3) and developing communication and dissemination mechanisms for disaster risk information and early warning (task 2.4). As good information is the basis for disaster reduction it is certainly linked to all areas of Hyogo Framework for Action implementation.

Definitions

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.

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.

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.

Exposure: Elements at risk, such as people and property.*

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction
**Adapted from UNDP BCPR, Reducing Disaster Risk: A Challenge for Development, 2005*

B. How to do it

Recommended steps

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Identify agencies and organisations currently in charge of collecting data that relate to hazards and vulnerability including organisations involved in observing, monitoring, analysing or disseminating information on hydro-meteorological, geological, biological, technological hazards and environmental degradation; that hold population

2.1 Review the availability of risk-related data and the capacities for their collection and use

census data, infrastructure inventory, business inventory, cadastral data, property-tax data, economic data and hazardous material location data; and those collecting indigenous knowledge and undertaking vulnerability and capacity assessments at community level and with women's groups;

3. Establish methods to review the data and the way it is catalogued, synthesised and disseminated;
4. Gather information and evaluate the relevance of data;
5. Identify strong and weak aspects of existing systems and opportunities for improvements;
6. Analyse and synthesise the evaluation's findings with key stakeholders;
7. Form an interdepartmental task group to identify data requirements for vulnerability and to oversee the collection and analysis of relevant data;
8. Prepare policies and programmes to improve data collection and dissemination for national, provincial and local government agencies to fill risk information gaps (see task 2.2) and improve collection and dissemination processes;
9. Disseminate the results of the evaluation to the institutions and organisations involved.

Questions to ask

In reviewing the types of data and how it is collected, catalogued, synthesised and disseminated consider constructing a matrix to map the findings. The matrix should:

- Relate data to the various hazards (e.g. rainfall statistics are used to evaluate runoff and potential flooding);
- Identify the agencies and organisations collecting hazard data, the scope of their work and whether their functions overlap with other agencies or leave gaps;
- Relate data to existing vulnerabilities (e.g. census data can reveal vulnerabilities in the age, health and livelihoods of the population, as well as gender-specific risk);
- Identify the agencies and organisations collecting vulnerability data, the scope of their work and whether their functions overlap with other agencies or if there are gaps.

Some tips for navigating the process

Most agencies collect data for other purposes than disaster risk evaluation and management, which may complicate the task of identifying risk information. In some cases it may be difficult to obtain information because it is restricted, such as that for hazardous materials' storage. The evaluation, however, can be an opportunity to raise agencies' awareness of hazards and vulnerabilities and to support them in improving their practices and broadening the utility of the information they manage. Another challenge is that the identification of gaps and needs may result in an overwhelming list because specialised agencies are often understaffed and underfunded. Hence, the evaluation should identify disaster risks with the most negative consequences for the country's people and its economy. The work can be made more manageable by delegating work to provincial/state and local agencies. These agencies may have some of the information and can add other relevant fields to their data collection.

In identifying the critical gaps in available hazards and vulnerability data ask:

- Is there reliable information for all—or the most important—hazards and vulnerabilities? Is the information gender specific? Is indigenous knowledge appropriately included? Is there adequate information about the entire territory? Is there a dependable historical record? Is there an appropriate process for updating information?
- Do agencies understand and are able to fulfil responsibilities for all information processes (i.e. observation, monitoring, archiving, quality control, analysis, synthesis and dissemination)? Do they coordinate adequately or are there weak links in information management? Do the relevant agencies have adequate equipment and capacity?
- Does information reach all who need it? Is it understandable to the target audience? Does it enable decision making to reduce risk?

C. Responsibilities and resources

Who should be involved?

- Designated authorities responsible for disaster risk reduction (e.g. disaster risk reduction national platform) and disaster management. Additional disaster management organisations that use risk data and the institution in charge of disaster management;
- Representatives of agencies in charge of scientific data collection (e.g. meteorological service, geological and earth science institutes, etc.) as well as agencies collecting population, economic, tax and development statistics (e.g. census bureau, tax administration, cadastre, etc.);
- Researchers and academics in social and technical science, regulators, insurance administrators and representative community workers, including women's groups.

What conditions facilitate the task?
Conditions that would facilitate the evaluation include:

- Executive and organisational support for the review;
- Funding and human resources (including a database specialist) for the evaluation;
- Multi-disciplinary, multi-organisation team to ensure proper assessment of all relevant hazards and vulnerabilities.

D. Illustrative initiatives [further examples sought]

Systematic risk information collection at neighbourhood, city and national level
Turkey

Turkey captures, catalogues and disseminates detailed information on building construction, including building location, number of floors, total area, build area, construction material (concrete, wood, masonry, etc.), year build and others. The existence of such detailed data enables engineers to undertake accurate loss evaluations from hazards because it simplifies (and it some cases eliminates) the process of collecting building inventory data that is necessary to estimate building damage potential. Engineers can also track the increase in vulnerability through the years because the data provides the year of construction and the amount of area built every year. Further, the Istanbul Metropolitan Municipality provides its own detailed building statistics by neighbourhoods (Mahalles). Such data enables risk studies by neighbourhood to estimate levels of damage to buildings and casualties. It has also enabled studies of potential landslides and liquefaction at high resolution and other studies related to flood-flush. The data's high-level of resolution allows for the evaluation of various risks and disaster reduction planning.

2.1 Review the availability of risk-related data and the capacities for their collection and use

Disaster risk reduction - focused data collection agency
Mexico

The Centro Nacional de Prevención de Desastres (CENAPRED) is a Mexican Government organisation set up to collect, catalogue and synthesises data in support of public awareness and government disaster risk management policies and programmes. It focuses on the most threatening hazards to Mexico, such as earthquakes and volcanoes, and aims to complement the role of other agencies. One of the key contributions of CENAPRED is to keep data and information on hazards and vulnerability current and to serve as a resource for dissemination of such information to the concerned agencies and to the general public.

For further information: Visit the Centro Nacional de Prevención de Desastres website at: www.cenapred.unam.mx

E. Where to find further guidance [further references and tools sought]

Several national agencies and global initiatives offer risk information on their websites. See for example:
- Emergency Events Database - EM-DAT: The International Disaster Database maintained by the Centre for Research on the Epidemiology of Disasters (CRED) at: http://www.em-dat.net/
- Global Earth Observing System of Systems (GEOSS) at: http://www.earthobservations.org/index.html
- Global Information and Early Warning Service (GIEWS) of the Food and Agriculture Organization (FAO) at: http://www.fao.org/giews/english/index.htm
- Integrated Global Observing Strategy (IGOS) at: http://www.fao.org/gtos/igos/index.asp
- Japan Aerospace Exploration Agency (JAXA) at: http://www.jaxa.jp/index_e.html
- National Aeronautics and Space Administration (NASA) at: http://www.nasa.gov/
- National Oceanic and Atmospheric Administration (NOAA) at: http://www.noaa.gov/ and NOAA's National Climatic Data Center at: http://lwf.ncdc.noaa.gov/oa/ncdc.html
- US Geological Survey (USGS) at: http://www.usgs.gov/

Division of Early Warning and Assessment/Global Resource Information Database (DEWA/GRID) Europe is one of UNEP's major centres for data and information management at: http://www.grid.unep.ch/index.php

HEWSweb service has dedicated pages for each type of hazard including drought, floods, storms, locust, volcanoes, earthquakes, weather, El Nino, other hazards and socio political developments. It is available at: http://www.hewsweb.org/home_page/default.asp

United Nations Environmental Programme (UNEP Disaster Management Information System for Africa is a searchable knowledge base listing institutions addressing disasters and risk in Africa. See http://www.unep.org/DEPI/dm/index.asp

United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT) provides satellite images and geographic information. See http://unosat.web.cern.ch/unosat/

UN/ISDR provides country profiles and disaster statistics prepared by the Centre for Research on the Epidemiology of Disasters (CRED). See: http://www.unisdr.org/disaster-statistics/introduction.htm

United Nations Statistics Division provides a searchable database of economic, demographic, social, environment and energy statistics. See: http://unstats.un.org/unsd/default.htm

World Data Center System provides a searchable database on solar, geophysical and related environmental data. See: http://www.ngdc.noaa.gov/wdc/

World Meteorological Organization (WMO) and the United Nations Programme on Space Applications provide data and offer seminars and training on space technology and disaster management. See: http://www.wmo.int/web/sat/vl.htm

2.2 Establish an initiative for country-wide risk assessment and analysis

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to implement an initiative to carry out countrywide risk assessments, identify risk knowledge gaps and develop a system to continually update risk information and to analyse risks to support decision makers.

Why it's important

Risk assessments identify the hazards to which the country is exposed and the country's vulnerabilities enabling understanding of the geographic and sectoral distribution of risk. Risk analysis encompasses the systematic and periodic update of data, tools and information to identify, map and monitor hazards and vulnerabilities. Risk assessment and analysis are required steps for the development and implementation of successful disaster reduction policies and measures because they enable, through cost/benefit studies, the identification of effective structural and non-structural mitigation measures. Risk assessment and analysis must be systematic and continuous to match the changing nature of risk.

Risks arise from the combination of hazards and vulnerabilities at a particular location. Assessments of risk require systematic collection and analysis of data and should consider the dynamic nature of hazards and vulnerabilities that arise from processes such as urbanisation, rural land-use change, environmental degradation and climate change. Risk assessments and maps help to motivate people, prioritise early warning system needs and guide preparations for disaster prevention and responses.

How it relates to other priority tasks

An evaluation, such as that suggested in task 2.1, may reveal, among other, gaps, incomplete or outdated risk information for the territory. As decision makers need a complete picture of the country's risk to set priorities for action to reduce risk, this task provides guidance on developing an initiative to fill such knowledge gaps. This task is also closely linked with adequate preparedness activities, discussed in chapter 5.

Definitions

Hazard analysis: Identification, studies and monitoring of any hazard to determine its potential, origin, characteristics and behaviour.

Risk assessment and analysis: A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend.

The process of conducting a risk assessment is based on a review of both the technical features of hazards such as their location, intensity, frequency and probability; and also the analysis of the physical, social, economic and environmental dimensions of vulnerability and exposure, while taking particular account of the coping capabilities pertinent to the risk scenarios.

Vulnerability and capacity assessment: A basic process used to identify the strengths and weaknesses of households, communities, institutions and nations, developed by the International Federation of the Red Cross and Red Crescent Societies.*

Please refer to chapter 2.1 for definitions of hazard, vulnerability, exposure and risk.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction
**IFRC, Guidelines for Vulnerability and Capacity Assessment (VCA)*

2.2 Establish an initiative for country-wide risk assessment and analysis

B. How to do it

Recommended steps
To develop an initiative for filling risk knowledge gaps through risk assessment:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Identify key national government agencies, research centres, experts and practitioners involved in hazard and vulnerability assessments and define their roles and responsibilities;
3. With expert team review existing risk assessment studies, both hazard identification and vulnerability analyses and evaluate critical gaps in knowledge of risks, focusing on areas most exposed to risk and areas where consequences of a hazard event could be catastrophic (e.g. largest urban agglomerations or industrial areas of the country);
4. Develop national standards for the systematic collection, sharing and assessment of hazard and vulnerability data and information and standardise with neighbouring countries or regions;
5. Develop a strategy to actively engage communities in local hazard and vulnerability analyses;
6. Establish a process to review and update risk data each year and include information on any new or emerging vulnerabilities and hazards and ensure that this information is widely available;
7. Develop integrated hazard maps to identify the geographical areas and communities at risk;
8. Conduct community vulnerability and capacity assessments considering social, economic, physical and environmental vulnerability factors such as gender, disability, access to infrastructure, economic diversity and environmental sensitivities and document and map vulnerabilities;
9. Characterise and prioritise natural hazards that can impact the country at local, regional and national level (e.g. intensity, frequency and probability) and evaluate historical data;
10. Develop risk analysis including hazards identification and vulnerability analysis and integrate results of risks assessment into local risk management plans, use geographic information systems (GIS) and land use planning software or application as appropriate;
11. Assess interaction of hazards and vulnerabilities to determine the risks faced by each region or community and identify activities that increase risks;
12. Consult with community and industry to ensure risk information is comprehensive and includes historical and indigenous knowledge;
13. Develop a set of indicators to measure progress in risk assessment and risk identification that can be used by various agencies and communities in communicating and understanding their risk profiles;
14. Develop papers and policy documents with recommendations and a strategic plan that can serve as a basis for resource allocation and for improvement of risk evaluation programmes and disseminate the results to all levels of government and the public to raise risk awareness.

A word on managing the process
Risk assessment studies can be costly and take time (complex studies can take several years), hence it is important to set assessment priorities so as to allocate resources efficiently. Also, the results of risk assessment studies could be highly technical and difficult to interpret by non-experts. Thus, it is helpful to have the support of an expert board to interpret the results for various disaster management applications, including awareness raising, mitigation, preparedness, response or recovery planning. Moreover, to process the large amount of data that can be generated, computer programmes provide high-resolution risk information. However, often risk assessment does not need to rely on such sophisticated tools. Good approximation of risk can be produced with simple tools, such as frequency versus severity scales combining various hazards. In almost all cases, expertise is needed for analysis, interpretation and validation.

C. Responsibilities and resources

Who should be involved?

The experts to be involved vary significantly with the type of risk assessment required. To identify hazards, for instance, experts with capacity in scientific data collection and knowledge development, such as meteorological service, geological and earth science institutes, academia, professional organisations and insurance are required. To assess community vulnerability and capacity, community groups and organisations should be involved, alongside social science experts. Environmental managers should be involved to assess impact to the environment from existing practices.

What conditions facilitate the task?

- Executive and organisational support for the initiative;
- Funding and human resources, including at local levels;
- Access to expertise for the assessment and the interpretation of results, which can be quite technical;
- Multi-disciplinary, multi-organisational team approach and ability to work constructively with various agencies and engage them in the full process;
- Understanding of the current national process for risk assessment both within the country and outside the country (e.g. regional research centres, international agencies, etc.).

D. Illustrative initiatives [further examples sought]

Systematic use of risk maps to guide disaster risk reduction priorities
India

The Government of India has developed several instruments to enable the shift in national policy from post-disaster response to pre-disaster action for earthquakes, cyclones and floods. High vulnerability and the rising frequency of natural hazards have resulted in huge losses of human lives and housing stock in recent years. To counter this trend, a vulnerability atlas was developed. The atlas is a compendium of maps outlining areas prone to hazards and of high vulnerability. The vulnerability atlas has proved to be an innovative tool for assessing district-wide vulnerability and risk of existing housing stock. It is being utilised to develop micro-level action plans for reducing the impact of natural disasters. A countrywide information dissemination and awareness programme has helped householders, disaster managers, the administration at state, district and local levels, in understanding their respective roles and responsibilities in pre-disaster actions.

Based on the atlas and other recommendations, the Government instituted strategies and programmes for disaster mitigation, the reduction of losses of existing housing stock and achievement of desired safety levels in subsequent constructions. The atlas has also provided the relevant information to state governments and local authorities to strengthen regulatory frameworks by suitably amending the building by-laws, regulations, master plans and land-use planning regulations for promoting disaster resistant design, construction and planning practices. The documents and methodologies for vulnerability and risk assessment and technical guidelines for disaster-resistant constructions have shown high potential for transfer, adaptation and replication in varying conditions.

2.2 Establish an initiative for country-wide risk assessment and analysis

E. Where to find further guidance [further references and tools sought]

RADIUS: The Risk Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters (RADIUS) was developed under the auspices of the International Decade for Natural Disaster Reduction. It has been used, for instance, to evaluate earthquake risk in Kathmandu, Nepal, Dehradun, India, Tijuana, Mexico, and Antofagasta, Chile, under the United Nations Educational, Scientific and Cultural Organization (UNESCO) Cross-Cutting Theme Initiative: Reduction of Natural Disasters in Latin America and the Caribbean. Through the information provided by RADIUS, the UNESCO project aims to promote disaster risk reduction activities and development practices. The project integrated scientific knowledge and technological know-how and local considerations in order to generate earthquake risk prevention guidelines and tools. The project engaged local leaders and communities and focused on the education of poor populations at risk, public awareness and promotion of social perception of risk. See: http://www.geohaz.org/contents/projects/radius.html

Earth Simulator: In 2002, the Japanese Agency of Marine-Earth Science and Technology turned on the world's largest supercomputer to date, the Earth Simulator. The Earth Simulator creates a "virtual planet Earth" through its capability to process vast volumes of data sent from satellites, buoys and other worldwide observation points. The goal is to contribute to analyse and predict environmental changes on the earth through the simulation of various global scale environmental phenomena, such as global warming, El Nino, atmospheric and marine pollution, torrential rainfall and other complex phenomena, as well as terrestrial phenomena such as plate tectonics, earthquakes and precursors. This tool is a coordinated international effort linking complementary nationally based programmes, centres and research teams. See: http://www.es.jamstec.go.jp/esc/eng/

Global Risk Index Programme: The Global Risk Index Programme (GRIP) introduces a new method to measure global disaster risk. The index provides physical exposure levels and relative vulnerability for more than 200 countries and territories. The disaster risk index (DRI) enables the calculation of the average risk of death per country in large- and medium-scale disasters associated with earthquakes, tropical cyclones and floods, based on data from 1980 to 2000. It also enables the identification of a number of socio-economic and environmental variables that are correlated with risk to death and which may point to causal processes of disaster risk. The DRI indexes countries by hazard type according to their degree of physical exposure, their degree of relative vulnerability and their degree of risk. The DRI enables experts to measure and compare physical exposure to hazard, vulnerability and risk between countries and demonstrates a clear link between human development and death rates following natural disasters. See: http://www.undp.org.pl/pliki/disasters/1.pdf

HAZUS-MH (see: www.fema.gov) in the US and Risk-EU in Europe (European project on assessment and application of seismic risk scenarios see: www.risk-ue.net) can be described as demonstration tools for risk analysis.

GEO Data Portal is the source for data sets used by UNEP and its partners for integrated environment assessments. Its online database holds national, subregional, regional and global statistics or as geospatial data sets (maps), covering themes like freshwater, population, forests, emissions, climate, disasters, health and gross domestic product (GDP). Information can be displayed as maps, graphs, data tables or downloaded in different formats. See: http://geodata.grid.unep.ch/

Examples of free software:

GRASS, Geographic Resources Analysis Support System, is a Geographic Information System (GIS) used for data management, image processing, graphics production, spatial modelling and visualisation of many types of data. See the open source software at: http://grass.itc.it/index.php

MapServer is an open source, which allows users to create an environment for building spatially-enabled internet applications, including browsing GIS data or creating "geographic image maps". See: http://mapserver.gis.umn.edu/

2.3 Assess capacities and strengthen early warning systems

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to assess existing capacities for early warning and, based on that assessment, to develop a strategy to strengthen the country's early warning systems. Early warning requires a broad base of capacities, as illustrated in the box *The Four Elements of People Centred Early Warning*, and in the definition below. Some of these capacities are also dealt with in other tasks, for example in task 2.1 on evaluating risk knowledge.

The Four Elements of People Centred Early Warning

Source: UN/ISDR Platform for the Promotion of Early Warning

Definitions

Early warning system: 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. Early warning systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population and undertaking appropriate and timely actions in response to the warnings.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

Why it's important

Early warning systems 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. The expression "people centred early warning systems" is used to emphasise that warning systems must recognise human needs and human behaviour—technology alone cannot do the job.

Assessing capacity in respect to the four elements of early warning is the first step to identify areas of weakness and necessary measures to fill gaps.

Strategies to develop or strengthen early warning systems should ensure that all of the elements are effective: weakness in one early warning element can result in failure of the entire system.

2.3 Assess capacities and strengthen early warning systems

How it relates to other priority tasks

Early warning systems are closely interlinked with many aspects of disaster risk reduction. They depend on timely and accurate risk knowledge (covered in task 2.1), the communication of such information, as discussed in chapter 2.4 and chapter 3, and preparedness to react appropriately, addressed in chapter 5.

B. How to do it

Recommended steps

To evaluate the effectiveness and strengthen the country's existing early warning systems:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Organise an interdisciplinary team to assess whether the country's early warning systems are:
   - Adequately supported by legislation and policies;
   - Roles and responsibilities for all relevant organisations are defined and known by relevant stakeholders;
   - One political leader or government official is empowered by law as the national decision maker for warnings;
   - Policies to decentralise and empower local decision making and community participation are implemented;
   - Regional and cross-border arrangements for system integration are adequate;
   - Government funding mechanism exists for early warning and disaster preparedness;
3. Standardise the process of all agencies generating and issuing warnings (meteorological service, fire brigade, public-service non-governmental organisation, etc.) for easy data collection and analysis;
4. Develop an effective monitoring system that:
   - Measures all important parameters for each relevant hazard;
   - Has technical equipment suited to local conditions and circumstances and that personnel are trained in its use and maintenance;
   - Ensures warning centres are staffed at all times (24 hours per day, seven days per week);
   - Processes measured data in meaningful formats in real time, or near-real time;
5. Establish a sound forecasting and warning system that:
   - Ensures data analysis, prediction and warning generation are based on accepted scientific and technical methodologies;
   - Issues data and warning products within international standards and protocols;
   - Has fail-safe systems in place, such as power back-up, equipment redundancy and on-call personnel systems;
   - Generates and disseminates warnings in an efficient and timely manner and in a format suited to user needs;
   - Routinely monitors and evaluates operational processes, including data quality and warning performance;
6. Review studies of past disaster experiences, previous alerts and lessons learned;
7. Analyse the information, identifying capacities and gaps and with the team discuss findings and prepare recommendations for all levels of government;
8. Produce a plan to develop or strengthen multi-hazard early warning systems, clearly identifying priority actions and based on a cost-benefit analysis;
9. Identify opportunities to integrate early warning into national economic planning and development policies;
10. Develop capacity-building plans and training programmes with adequate resources and participation of non-governmental sector;
11. Secure financial resources, explore international and regional funding sources and develop partnerships with private sector;
12. Disseminate the results of the evaluation and the proposed plan, highlighting the economic and social benefits of early warning, supported with case studies.

For a comprehensive list of indicators for each of the four elements of effective early warning systems, see *Developing Early Warning Systems: A Checklist* (full reference in "Where to find further guidance" section).

C. Responsibilities and resources

Who should be involved?
In the assessment and strengthening of early warning systems the following should be included: Key technical experts from agencies in charge of scientific data collection and knowledge development, monitoring and warning services (meteorological service, geological institutes, etc.), communication and dissemination (community-based organisations, communications technology companies, the media) and response capability (disaster relief agencies, civil defence, non-governmental organisations).

What conditions facilitate the task?
Some of the conditions and resources that facilitate the task include:

- Executive and organisational support;
- Funding and human resources;
- Early warning "champions" that raise awareness;
- Access to expertise including those with technical background for monitoring and warning, as well as response;
- Understanding of regional and worldwide resources;
- Cooperation with national, regional and international organisations involved in the four elements of early warning (e.g. World Meteorological Organization; United Nations Educational, Scientific and Cultural Organization; World Health Organization; Red Cross Societies; etc.).

D. Illustrative initiatives [further examples sought]

Cyclone early warning programme
Bangladesh

Bangladesh is one of the most disaster-prone nations in the world. Given the predictable disasters likely to strike Bangladesh, the Bangladesh Red Crescent Society (BDRCS) and the Government of Bangladesh launched the Cyclone Preparedness Program (CPP). The goal of the CPP is "to minimise loss of lives and properties in cyclonic disaster by strengthening the disaster management capacity of the coastal people of Bangladesh." The CPP developed a district emergency plan at each branch that targets communities affected by flooding, tornadoes, river erosion, drought and cyclones. Community activities include the dissemination of cyclone-warning signals issued by the Bangladesh Meteorological Department to the community, assistance to people in taking shelter, rescue of distressed people affected by a cyclone and provision of first-aid to the people injured by a cyclone.
The CPP disseminates cyclone early warning messages through its extensive radio network (143 stations) to districts along the coastal belt. The CPP's Dhaka headquarters and the 143 wireless stations comprise the largest wireless network in Asia. Also, 33,000 volunteers deliver the messages using megaphones and sirens to most at-risk villages and assist particularly the weakest members of communities to seek refuge in cyclone shelters. In total there are 1,600 shelters across the coastal region, 149 of them built by the BDRCS. These shelters are laid out to take up to 1,500 people and can serve as schools and community centres during "normal" times. Cyclone preparedness volunteers also get involved in rescue, first aid activities and the distribution of relief items. Outside

the 4-months cyclone season the volunteers run public awareness activities such as staging educational dramas and simulation exercises. Increasingly volunteers also contribute to longer-term mitigation activities such as planting palm trees as wind breaks along the coast. The CPP covers eleven districts in the coastal area and can send warning signals to approximately eight million people.

For further information: Bangladesh Red Crescent Society, Cyclone Preparedness Program at a Glance, February 2002; International Federation of Red Cross and Red Crescent Societies: World Disaster Report: Focus on Reducing Risk, March 2002; or Asian Disaster Reduction Center, Total Disaster Risk Management-Good Practices, January 2005.

Global tropical cyclone warning system

Tropical cyclones, also popularly known as hurricanes or typhoons, are globally monitored and forecasted on a daily basis through the World Meteorological Organization (WMO) Global Tropical Cyclone Warning System. This is a global network for observations, data exchange and regional forecasting and analysis capabilities, operated by National Meteorological and Hydrological Services and includes six Regional Specialised Meteorological Centres that provide around-the-clock forecasts, alerts and bulletins on the severity, project path and estimated land fall to the National Meteorological Services of countries at risk, which then issue the warning for their countries with lead times of at least 24 hours and up to several days. These lead times are sufficient to achieve effective mass evacuations and thereby avoid widespread loss of life. Five Tropical Cyclone Regional Committees (comprising experts in tropical cyclone modelling and forecasting) provide regional coordination including training support.

Source: Global Survey of Early Warning Systems

Tornado early warning system
United States of America

Severe storms comprise several phenomenon types including tornadoes, hailstorms, lightning, flash flood and sand and dust storms. Tornado warning lead time is inherently very short and warning systems are only operational in a few countries at risk, such as the USA, where warning lead time is up to 15-20 minutes. Tornado warnings are most effective in enabling people to seek shelter when they are preceded by alerts, called "tornado watches", which warn the communities at risk of the possibility of a tornado strike many hours in advance. The number of tornado deaths significantly dropped in the USA during the last century mainly as a result of the Doppler Radar Network. Similarly, operational systems for hailstorm monitoring are limited at country level with warning lead time of a few hours. The forecasting of severe storms is challenging as the hazards affect discrete locations. Warnings for sand and dust storms, with a lead time of up to 3 days, are issued through the National Meteorological and Hydrological Services but operational warning systems for many of these hazards are lacking in most countries and regions.

Source: Global Survey of Early Warning Systems

Early warning system for earthquakes
Mexico

The occurrence of earthquakes cannot be predicted, but once an earthquake has occurred there may be time to alert and shut down distant facilities like railways. The Seismic Alert System (SAS) is an earthquake early warning system developed with the sponsorship of the Mexico City Government authorities and operating since 1991. To date the greatest seismic event detected by the SAS was the September 14, 1995, M7.3 "Copala" earthquake. Seventy-two

seconds prior to the arrival of strong ground motion effects, the SAS earthquake warning was disseminated via local AM/FM commercial radio stations, allowing the operation of the audio alerts and triggering prevention procedures. Prevention procedures were developed in each public school within the earthquake hazard reduction programme of the Secretariat of Public Education in the valley of Mexico, since September 1985. The general warning for the Copala earthquake was also useful to government agencies for emergency response functions, key utilities services, the Mexico City subway and one large housing complex. This earthquake early warning reached about 4 million citizens. The system has detected 656 seismic events, nine of them so strong to trigger general early warning signals in Mexico City; 32 moderate ones, including one false general early warning signal and one earthquake well detected, but not warned. There are recognised deficiencies in the system: historically not all the guidelines and recommendations for the use of the SAS public service have been carried out or are being applied continuously and the average Mexico City adult resident is not trained, but the government authorities have been studying how to promote and enhance the system.

For further information: Reference: Juan M. Espinosa-Aranda, A. Jimenez, G. Ibarrola, F. Alcantar, A. Aguilar, M. Inostroza, S. Maldonado, Centro de Instrumentacion y Registro Sismico, A.C., Anaxagoras #814, CP 03020, Mexico

E. Where to find further guidance [further references and tools sought]

Basher, R., (2006): Global early warning systems for natural hazards: systematic and people-centred. Philosophical Transactions of the Royal Society. To download at: http://www.unisdr.org/ppew/info-resources/docs/RSTA20061819p.pdf

UN/ISDR Platform for the Promotion of Early Warning (PPEW) and German Committee for Disaster Reduction (DKKV), (2006): Early Warning – From concept to action, The Conclusions of the Third International Conference on Early Warning.

UN/ISDR, (2006): Key Checklist for Early Warning Systems. See: http://www.unisdr.org/ppew/

UN/ISDR, (2006): Global Survey of Early Warning Systems: An assessment of capacities, gaps and opportunities toward building a comprehensive global early warning system for all natural hazards. To download at: http://www.unisdr.org/ppew/info-resources/ewc3/Global-Survey-of-Early-Warning-Systems.pdf

UN/ISDR Platform for the Promotion of Early Warning website contains a wealth of information on early warning for various hazards as well as experiences from several countries, discussion papers, publications, etc. at: http://www.unisdr.org/ppew/

Villagran de León, J. C., Bogardi, J. (UNU-EHS), Dannenmann, S., Basher, R. (UN/ISDR PPEW), (2006): Early Warning Systems in the context of Disaster Risk Management. Entwicklung & Ländlicher Raum, 2/2006, pp. 23-25.

WMO, Natural Disaster Prevention and Mitigation Programme. For further information see: http://www.wmo.ch/disasters/index.htm

Zschau, J., Küppers, A.N., (2003): Early Warning Systems for Natural Disaster Reduction. Springer Verlag Berlin Heidelberg New York.

2.4 Develop communication and dissemination mechanisms for disaster risk information and early warning

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to strengthen mechanisms for effectively communicating and disseminating disaster-risk information and early warnings to the population.

Why it's important

Effective communication of disaster risk information, including early warning, enables people to take action to reduce their risk and safeguard their lives and livelihoods. Effective risk reduction communication and dissemination strategies ensure that information is understandable and reaches all those who need it in time to make appropriate decisions. The process of communicating risk and preparing communities to respond to warnings—for instance through emergency drills—is an opportunity to raise awareness and build ownership of risk reduction, thus empowering individuals and communities. Usually in the early warning chain, it is communication, dissemination and preparedness to respond to warnings that are the weakest links.

Community-based organisations often are well integrated in the community and can 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 as the messages will be better tailored to the target audience and their specific interests. Similarly, communication and dissemination strategies are best developed with local governments, as they will be in charge of communicating warnings to the population and implementing disaster response measures, such as evacuations.

Effective early warning communication

For effective communication of warnings, alerts should be short, simple and precise; provide timely information about the hazardous situation; state what action should be taken to reduce loss of life, injury and property damage; explain the consequences of not heeding the warning; cite a credible authority, provide feedback to operational decision makers on the extent of public compliance; have a personal context; contain active verbs; and repeat important information regularly.

See definition of early warning system in task 2.3.

Source: Adapted from Australian Emergency Manual: Community Emergency Planning Guide, 2nd Edition, Section 8.08, Natural Disasters Organisation, 1992.

How it relates to other priority tasks

The task of communicating risk information is closely linked with targeted activities such as developing a programme to raise awareness (see task 3.1) and broad activities such as enhancing the dissemination of information (see task 3.4). More generally it is linked to effective disaster preparedness for response (see chapter 5).

B. How to do it

Recommended steps
To develop effective communications and dissemination processes, begin by evaluating existing capacities:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Identify the various organisations and agencies and other stakeholders involved in communication and dissemination and invite them to participate in the process;
3. Create a matrix mapping stakeholders, their roles and responsibilities and their areas of interaction;
4. Identify gaps in communication services and in the coordination of communication and dissemination services;
5. Develop plans for improving communications among stakeholders and decisions related to alerts and early warning systems between the various governmental and non-governmental agencies;
6. With agencies and organisations develop a strategy and related action plan for risk communication and dissemination that is well-coordinated with response plans and reflective of community values and interests;
7. Discuss plan with relevant agencies, obtain independent review and introduce to government for funding and for deployment.

To support the communications and dissemination processes:

1. Enforce warning dissemination chain through government policy or legislation and empower recognised authorities to disseminate warning messages;
2. Define roles and responsibilities of regional or cross-border early warning centres, including the dissemination of warnings to neighbouring countries;
3. Identify and empower volunteer mechanisms to receive and widely disseminate hazard warnings to exposed communities, especially in rural areas;
4. Promote stakeholder "working groups" that can act as coalitions for risk communication and for participation in the risk awareness and the disaster risk reduction agenda;
5. Develop evaluation systems to improve coordination of disaster risk management actions and to promote ownership.

To install effective communication systems:

1. Tailor the communication and dissemination systems to the needs of individual communities (e.g. radio or television for those with access, and sirens, warning flags or messenger runners for remote communities);
2. Ensure that the warning communication technology reaches the entire population, including seasonal populations and remote locations;
3. Use multiple communication mediums for warning dissemination (e.g. mass media and informal communication).

To ensure warning messages are recognised and understood:

1. Tailor warning alerts and messages to the specific needs of those at risk (e.g. recognising diverse cultural, social, gender, linguistic and educational backgrounds);
2. Disseminate geographically specific warning alerts and messages to ensure warnings are targeted to those at risk only;
3. Disseminate recognisable and consistent warning alerts over time and include follow-up actions when required;
4. Inform the community when the threat has ended;
5. Undertake a study on how people access and interpret early warning messages and incorporate lessons learned into message formats and dissemination processes.

For a comprehensive list of indicators for each of the four elements of effective early warning systems, see *Developing Early Warning Systems: A Checklist* (full reference in "Where to find further guidance" section).

2.4 Develop communication and dissemination mechanisms for disaster risk information and early warning

C. Responsibilities and resources

Who should be involved?

The principal stakeholders to involve are representatives of agencies and organisations involved in disaster risk reduction communication and dissemination, such as warning agencies, community-based organisations, communications technology companies and the media, as well as those from response capability, including disaster relief agencies, civil defence and non-governmental organisations. Key technical experts in agencies such as weather services, geological and earth science institutes, etc., should also be involved to ensure that technical information is communicated in understandable language and contains information relevant to target audiences.

What conditions facilitate the task?

- Executive and organisational support;
- Funding and human resources for assessing needs and implementing actions to strengthen processes;
- Understanding of communication protocols and coordination of governmental and non-governmental agencies involved in scientific data management, risk studies, alerts and early warning;
- Good coordination between the scientific functions and the emergency management functions of governments at national, provincial and local levels;
- Capability to engage the community and civil society at-large and to build on their capacities.

D. Illustrative initiatives [further examples sought]

Disaster risk reduction communication campaign
Papua New Guinea

Papua New Guinea (PNG) is highly susceptible to tsunamis because of its topographical conditions and the frequency of earthquakes and volcanic activity in the surrounding seas. In 1998, an earthquake measuring seven on the Richter scale occurred, with the epicenter only 30 kilometres from the coast of north-west PNG. The resulting tsunami struck coastal villages of the Aitape region claiming more than 2,200 lives. While tsunamis are not new to PNG, lessons learned from previous experiences have not been passed on to new generations. People knew little about the imminent threat of tsunami hazards in 1998 and when residents felt the earthquake they did not seek refuge on higher ground from the tsunami immediately, which contributed to the many casualties.
At the request of PNG authorities, the Asian Disaster Reduction Center (ADRC) in Kobe, Japan agreed to transfer Japanese tsunami experience to local communities in PNG. ADRC produced posters and pamphlets in English and local languages with many pictures and illustrations and distributed them to residents and school children living in coastal areas. The information was also used and distributed by the PNG Red Cross. Thus many PNG residents have learned to beware of tsunamis following an earthquake and to seek refuge on higher ground. In 2000, an earthquake measuring eight on the Richter scale occurred off the PNG coast. While it created a tsunami that destroyed thousands of houses, there were no deaths. ADRC continues to work in this area following its commitment to provide guidance to neighbouring countries with similar problems.

Source: UN/ISDR, Living with Risk; ADRC 2001.

Integrating indigenous knowledge in risk communication strategies
Indonesia

Leaders of Indonesia's Simeulue community received a prestigious U.N. award for saving tens of thousands of lives during the December 2004 tsunami. Thanks to their own knowledge this community of some 80,500 people fled the shore for nearby hills after the earthquake. Consequently, only seven people died from the tsunami in this island community, while 163,795 died across the rest of Indonesia's northern Aceh province. "The story of what happens to the sea before a tsunami and how the buffaloes rush towards the hills has been shared by families for years along with other stories about our ancestors," a soft-spoken Mohamed Ridwan, a leader of the Simeulue community, said after receiving the award. This oral narrative had been shaped by the destruction that shook this community of farmers, fishermen and traders when an earthquake followed by a tsunami hit the islanders in 1907, killing thousands. "Since then we learned how to escape and last December it took about 30 minutes to get to higher ground," Ridwan, 53, secretary of the Simeuleu district region, explained during an interview. The flight and the thousands of lives saved as a result are all the more remarkable given that Simeulue people were located close to the epicenter of the powerful Indian Ocean earthquake that triggered the tsunami.

Source: UN/ISDR, Viewpoint October 2005. To download at:
http://www.unisdr.org/eng/media-room/point-view/2005/Indonesia-community-UN-award.doc

E. Where to find further guidance [further references and tools sought]

Perez, F.Y.L., (2005): Survival Tactics of Indigenous People: http://academic.evergreen.edu/g/grossmaz/LEEPERFY/

UN/ISDR, (2006): Key Checklist for Early Warning Systems. See in particular checklist for dissemination and communication. Available at: http://www.unisdr.org/ppew/

UN/ISDR, 2005, UN Sasakawa Award for Disaster Reduction: http://www.unisdr.org/eng/sasakawa/2005/sk-2005-descripction-eng.htm

UN Special Envoy for Tsunami Recovery President Bill Clinton, (2005): Transcript of Remarks to UN Economic and Social Council (ECOSOC), Humanitarian Segment, Panel "Lessons Learned From the Response to the Indian Ocean" July 14th 2005, United Nations, New York http://www.unisdr.org/eng/media-room/point-view/WJC-ECOSOC-transcript.pdf

Chapter 3:

Building a culture of resilience to disasters through awareness, education and training

Hyogo Framework for Action Priority 3
Use knowledge, innovation and education to build a culture of safety and resilience at all levels.

Implementing Hyogo Framework for Action Priority 3 requires sharing information; strengthening networks across disciplines and regions and promoting dialogue; using standard disaster risk reduction terminology; promoting the inclusion of disaster risk reduction in school curricula, formal and informal education; developing training and learning programmes on disaster risk reduction at community level, for local authorities and targeted sectors ensuring equal access for women and the most vulnerable; strengthening research capacity for multi-risk assessment, socio-economic cost-benefit analysis and risk monitoring; and engaging the media to raise public awareness.

States can undertake a number of tasks to implement Hyogo Framework for Action Priority 3. This chapter recommends the following tasks:

1. Develop a programme to raise awareness of disaster risk reduction and empower all levels of society;
2. Integrate disaster risk reduction in the education system and research community;
3. Develop disaster risk reduction training for different groups of stakeholders;
4. Enhance the compilation and dissemination and use of disaster risk reduction information.

The following questions may be useful as indicators to assess progress in implementing the Hyogo Framework for Action Priority 3:

- Is there a countrywide public awareness strategy for disaster risk reduction?
- Do curricula of schools and higher-education institutes include disaster risk reduction?

3.1 Develop a programme to raise awareness of disaster risk reduction and empower all levels of society

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to plan and implement a campaign to continuously build awareness of disaster risk and measures to reduce it. The ultimate goal is to make disaster risk reduction an accepted value among opinion makers/shapers and the general public.

Why it's important

Awareness enables people to protect themselves in their every-day lives and through their professional responsibilities. Understanding of disaster risks increases the effectiveness of early warning and policy implementation.

How it relates to other priority tasks

This task is closely linked to that of communicating risk knowledge (see task 2.4) and the broader task of enhancing the dissemination of risk information (see task 3.4). It enables people to be prepared to respond to disasters (see chapter 5).

Awareness raising as a policy tool
In awareness campaigns, policy makers and other interested groups aim for behavioural changes based on new social norms and attitudes. However, a narrow focus on awareness raising as a way to achieve specific goals set by politicians or researchers would be presumptuous.

Awareness as an interactive movement
Awareness raising is an interactive movement in which different parties are engaged, each with their own roles, responsibilities and ways to make their voices heard and create social pressure. Awareness raising is therefore inherently linked to knowledge, attitudes and behaviour.

Campaigns as means to influence and change behaviour
All awareness campaigns aim to influence behaviour and, hence, they are useful to understand how communication influences behaviour. Traditionally, campaigns focus on providing information and knowledge to influence individual attitudes. Knowing the results of behaviour and realising the importance of doing so might convince people to change their behavioural pattern.

There are other initiatives that can influence social norms. Here the goal is less to make an individual aware of a certain problem but rather to influence the subjective norm of a larger community.

Definitions

Public awareness: The processes of informing the general population, increasing levels of consciousness about risks and how people can act to reduce their exposure to hazards. This is particularly important for public officials in fulfilling their responsibilities to save lives and property in the event of a disaster. Public awareness activities foster changes in behaviour leading towards a culture of risk reduction. This involves public information, dissemination, education, radio or television broadcasts, use of printed media, as well as, the establishment of information centres and networks and community and participation actions.

Resilience: The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

3.1 Develop a programme to raise awareness of disaster risk reduction and empower all levels of society

Campaigns should focus on increased understanding of the problems and their solutions. The proposed changes need to be feasible and easy to carry out. Designing the whole campaign in a participatory manner can also help to stay closer to the ideas, constraints and opportunities of the target audience.

Source: Adapted from "Ideas for Water Awareness Campaigns" by Wouter Schaap and Franck van Steenbergen, produced in conjunction with the Global Water Partnership. http://www.collinsassoc.ca/water/contents.htm as cited in UN/ISDR Living with Risk, 2004.

B. How to do it

Recommended steps

Awareness campaigns need to include many different activities focused on various audiences and implemented by different actors.

To develop an appropriate awareness campaign strategy, a country needs to:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Secure continued resources for implementing the awareness campaign;
3. Determine which communications channels would appeal to the greatest range of stakeholders;
4. Establish relationships with the media industry, media professionals and other marketing interests to support disaster risk reduction efforts;
5. Engage respected local officials, religious and community leaders to disseminate information and encourage participation;
6. Determine the activities that will appeal to target groups, such as educational campaigns in schools and community centres, community fairs, yearly commemorative events or festivals, neighbourhood safety drills, simulations, etc.

Basic principles of public awareness programmes

- They should be designed and implemented with a clear understanding of local perspectives and requirements with all materials reflecting local conditions;
- They should target all sections of society, including decision-makers, educators, professionals, members of the public and individuals living in threatened communities;
- Different types of messages, locations and delivery systems are necessary to reach the various target audiences;
- Sustained efforts are crucial to success, although single activities such as commemorative disaster reduction events and special issue campaigns can be useful if they are part of a larger, consistent programme.

Measures that can support an awareness-raising campaign include:

1. Develop activities that enable school-aged children to influence their parents;
2. Encourage private and commercial enterprises to raise awareness among their own employees and create incentives for their wider involvement in public awareness campaigns through such activities as sponsorships, advertising opportunities, etc.;
3. Organise workshops, forums and educational activities for communities at local, social and cultural facilities.

HFA Develop a programme to raise awareness of disaster risk reduction and empower all levels of society **3.1**

C. Responsibilities and resources

Who should be involved?

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

What conditions facilitate the task?

- Participation of government officials and community leaders;
- Understanding, acceptance and support of local community members;
- Material and financial resources for sustaining the programme continuously.

D. Illustrative initiatives [further examples sought]

Public Awareness Campaign
Islamic Republic of Iran

In December 2003, an earthquake struck South Eastern Iran, killing over 43,000 people, leaving 60,000 homeless and destroying much of the city of Bam. Shortly after, the Government revised its national strategy for earthquake risk reduction. A pivotal part of this revision was a focus on increasing public awareness and promoting a culture of prevention through an awareness-raising campaign. The campaign promoted preparedness and safety in an understandable form using all media. The campaign included posters, billboards and a set of materials dedicated to children's education. These included colourful and age-appropriate information on earthquakes and earthquake safety in the forms of booklets, posters, writing and painting exhibitions. The campaign also established an annual drill in schools, as well as a public rally. Special efforts were made to include women in the process. Campaign organisers identified indicators by which to measure progress in knowledge and awareness. Panels of community members of different ages and gender were asked a series of questions about their knowledge and expected action for earthquake safety. Progress was measured by tracking their replies. The results showed an improvement in awareness, concern and preparedness among the local people.

E. Where to find further guidance [further references and tools sought]

Baranquilla APELL Group, (2002): The program for awareness and preparedness of emergencies.
ISDR system Thematic Cluster/Platform on Knowledge and Education, prepared by Ben Wisner, (2006): Let Our Children Teach Us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction. To download at: http://www.unisdr.org/eng/task%20force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf
Kreimer, A., Arnold, M., (2000): Managing Risk in Emerging Economies, World Bank.
Wisner, B., (2003): At Risk: Natural Hazards, People's Vulnerability and Disasters.
UN/ISDR (2006-2007): Disaster risk reduction begins at school. 2006-2007 World Disaster Reduction Campaign. For more information see: http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/wdrc-2006-2007.htm

3.2 Integrate disaster risk reduction in the education system and research community

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to integrate elements of disaster risk reduction in the entire education system—from elementary school to university level—and equally to promote applied research in disaster risk reduction practices.

Why it's important

Incorporating hazard and disaster risk-related issues into existing education curricula contributes to continuous learning and reinforces disaster risk reduction knowledge. Educating younger generations instils disaster risk reduction as a value in society—a value that will be transmitted to next generations. Children are thus effective agents for building a culture of resilience to disasters. Also, higher education and applied research are the sources of practical endeavours in building disaster reduction capacities and therefore merit special attention.

How it relates to other priority tasks

This task builds on risk knowledge (see chapter 2) and enables appropriate response to early warning and to disaster events through preparedness (see chapter 5).

B. How to do it

Recommended steps
To include elements of disaster risk reduction in the education system:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Establish a task force and separate committees to focus on different levels of education, including universities;
3. Assess the current knowledge of disasters and disaster reduction at all age levels through surveys and analyse existing curricula to assess whether disaster risk issues are appropriately addressed;
4. Promote the integration of disaster risk reduction in existing subjects beyond science and geography, such as reading, art, history, sociology, engineering, environmental management, hydrology, planning, public health, etc. from primary school through university studies;
5. Collect education material to develop guidelines for educators to incorporate disaster-related information into all relevant areas of their curricula;
6. Provide training for teachers and school officials regarding disaster risk education;
7. Encourage universities to develop degree programmes specific to disaster management and risk reduction issues;
8. Encourage the use of electronic and distance learning to further expand access to disaster risk reduction education;
9. Encourage the development of applied scientific, socio-economic and technical research to advance understanding and application of disaster risk reduction in development practices;
10. Create opportunities for dialogue among researchers, policy makers and practitioners.

Questions to ask
In developing the education curricula ask:

- Does the curriculum reflect national and local hazards and vulnerabilities? Does it make the information locally relevant by focusing on the social, economic and environmental dimensions of hazards and wider public exposure to risk where students and their families live?
- Does the primary school curriculum communicate information in an appealing manner (e.g. through games, field trips, dramatic arts and other forms of student engagement)?
- Do schools and other learning centres engage external speakers and experts and seize opportunities to bring together younger and older generations to discuss disaster risk reduction?
- Do tertiary institutions have research programmes focused on disaster risk reduction?
- Are the necessary resources and funds available for educators and the academic community?
- Can existing networks be reinforced to build partnerships among educators and the academic community and across faculties and disciplines?
- Are there incentives for national and local policy makers to establish an education curriculum that includes disaster risk reduction as a subject matter?

Promoting applied research through a national research agenda
Governments should promote applied research by developing a national research agenda, creating opportunities for dialogue among academics, professionals and the private sector. Applied research is a pivotal part of a national platform for disaster risk reduction or other disaster risk reduction committee. National platforms have the important responsibility to facilitate a national research agenda and encourage and guide research that helps to develop conceptual frameworks and methodological structures or approaches and develop a national multi-disciplinary research agenda (see task 1.2 on national platforms).

C. Responsibilities and resources

Who should be involved?

- Educators;
- Ministry of education representatives and higher education policy makers;
- Academics and research community representatives;
- Parent and teacher associations;
- Children and youth.

What conditions facilitate the task?
Some resources and conditions that support the work include:

- Political commitment and community support;
- Allocation of human and financial resources.

3.2 Integrate disaster risk reduction in the education system and research community

D. Illustrative initiatives [further examples sought]

Let's be prepared - An educational project about disasters
Cuba

Cuba is heavily exposed to natural hazards such as tropical cyclones, floods, intense rains and strong winds. During an average season up to ten hurricanes are formed. However awareness of these natural hazard risks have increased in recent years as the Cuban Government has implemented strategies to significantly reduce the population's vulnerability to disasters. The strategy has decreased loss of life, agriculture and livestock.

Cuba has incorporated disaster risk awareness into different school programmes through cultural training, extracurricular and non-teacher-centered activities. These activities draw on cross-cutting issues such as disaster prevention and preparedness. Despite these efforts, the links between disaster education and communities still require strengthening with students as the leading actors in this process.

The project entitled "A Prepararnos" was implemented in the province of Holguin to develop environmental education through formal, non-formal and informal means with the active participation of children and the community at large. The project focused on the relationship between schools and communities. It also established follow-up mechanisms for specific results and adapted a number of methodologies based upon the local environment, existing problems and natural and human disasters and their prevention. The project was implemented in pilot schools and communities throughout the 14 municipalities of Holguin.

For further information: Visit UN/ISDR website at:
http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/case-study-cuba-en.pdf

Applied research programme

The United States' Second Assessment of Research and Applications for Natural Hazards was a multi-year project sponsored by the National Science Foundation with supporting contributions from the Federal Emergency Management Agency, the U.S. Environmental Protection Agency, the U.S. Forest Service and the U.S. Geological Survey. It began in 1994 with the formal mission of summarising what is known in the various fields of science and engineering that is applicable to natural and related technological hazards in the United States and making some research and policy recommendations for the future. The results of that effort are compiled in a book entitled "Disasters by Design: a Reassessment of Natural Hazards in the United States". The book summarises the hazards research findings from the last two decades, synthesises what has been learned and outlines a proposed shift in direction in research and policy for natural and related technological hazards in the United States. The project involved the volunteer assistance of scores of scholars and practitioners from across the country. An advisory panel, comprised primarily of representatives of federal agencies with a stake in hazard mitigation programmes, guided the work.

For further information: Visit the website of the Natural Hazards Research and Applications Information Center, University of Colorado at: http://www.colorado.edu/hazards/publications/disastersbydesign.html

Effective risk reduction education

The power of knowledge was demonstrated at a tourist resort near Phuket, Thailand, during the 2004 Indian Ocean Tsunami, where a young British schoolgirl recognised that the turbulent sea and loud noise of the waves meant a tsunami was coming. She alerted her parents and other people present to the danger, possibly resulting in the saving of 100 lives. The girl was able to recognise the signs because she had recently learned about tsunamis in classes at her school.

For further information: Visit UN/ISDR website at:
http://www.unisdr.org/eng/media-room/point-view/2005/British-schoolgirl-hero-meets-President-Clinton.doc

E. Where to find further guidance [further references and tools sought]

Selected tools:

"Let's learn to prevent disasters!"
UN/ISDR and the United Nations Children's Fund (UNICEF) have together produced this educational kit for children. It includes the board game "Riskland" whereby players learn about what they can do to reduce disaster impacts by answering questions and advancing along the board's winding path. The kit and game may be adapted according to the different hazards communities face and translated into local languages. To date, the kit is available in English, Haitian Creole, Maya Kackchiquel, Nepali, Portuguese and Spanish, with translations into over 15 other languages currently underway.
For further information: Visit UN/ISDR website at:
http://www.unisdr.org/eng/public_aware/world_camp/2004/pa-camp04-riskland-eng.htm

"Expect the Unexpected™"
This Red Cross programme provides a variety of teaching and communication aids for teachers or educators, students and their parents, including facilitator's guides, transparencies, activity booklets, briefing notes for parents, videos, posters and participation certificates for students. It features lesson plans and activities focused on prevention that are consistent with the objectives of certain educational programmes of the provincial and territorial departments of education. Among them: social studies, science and technology, health and physical education curricula.

The programme consists of three modules. The module "It can happen, be ready" is intended for 7-8 year old students. The module "Facing the unexpe]cted, be prepared" is intended for 10-11 year-old students. The module "Be ready, be safe" is intended for 12-13 year-old students. Each teaches young people how to act safely in case of hazard events and help them deal with emergencies.
For further information: Visit the Canadian Red Cross website at:
http://www.redcross.ca/article.asp?id=002627&tid=015

3.2 Integrate disaster risk reduction in the education system and research community

Disaster-resistant schools - A tool for universal primary education

The cyclone-prone island of Madagascar is on track to reach the Millennium Development Goal of Universal Primary Education by 2015. In the last three years, primary school attendance rate increased by 80 percent, from 53 percent in 2002 to 95 percent in late 2005.

The Malagasy Government's free supply of school materials such as textbooks and pens to low-income families in selected areas, a massive recruitment and training of primary school teachers and the construction disaster resistant school buildings are three main factors that have contributed to the rise in primary school attendance.
For further information: Visit UN/ISDR website at:
http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/case-study-madagascar-en.pdf

Selected university networks:

CUREE - Consortium of Universities for Research in Earthquake Engineering at: http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/wdrc-2006-2007.htmMadras University
Delft University at: http://www.tudelft.nl/live/pagina.jsp?id=b226846d-f19f-4c34-97ed-165fecc5ad8f&lang=en
ICSU - International Council for Science at: http://www.icsu.org/index.php
Kyoto University at: http://www.kyoto-u.ac.jp/index-e.html
START – global change SysTem for Analysis, Research, and Training at: http://www.start.org/index.html
UNU - United Nations University at: http://www.unu.edu/

ISDR system Thematic Cluster/Platform on Knowledge and Education, prepared by Ben Wisner, (2006): Let Our Children Teach Us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction. To download from the UN/ISDR website at: http://www.unisdr.org/eng/task%20force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf

Mileti, D., (1999): Disasters by Design A Reassessment of Natural Hazards in the United States. Joseph Henry Press

ProVention Consortium, (2004): Lessons Learned from the Applied Research Grant, Global Symposium for Hazard Risk Reduction. To download at: www.proventionconsortium.org

UNESCO, (2005): Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability.

3.3 Develop disaster risk reduction training for different groups of stakeholders

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to develop a training initiative for specific sectors that aims to equip policy makers, development practitioners and disaster managers with sufficient, knowledge and skills for mainstreaming disaster risk reduction into development sectors.

Why it's important

Disaster risk reduction needs to be integrated into development sectors to preserve development accomplishments. Disaster risk reduction training builds capacities that allow individuals to take responsibility for their own safety and further disaster risk reduction. Training activities also provide the opportunity to consider indigenous knowledge and traditional practices.

Definitions

Capacity building: Efforts aimed to develop human skills or societal infrastructure within a community or organisation needed to reduce the level of risk. Capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

How it relates to other priority tasks

The task of developing a training initiative to integrate disaster risk reduction into the country's development builds on efforts to raise disaster risk reduction awareness, as proposed in task 3.1, and complements a focus on education for schools and universities, as recommended in task 3.2.

B. How to do it

Recommended steps

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Identify key sectors for training based on disaster reduction needs at national and local levels;
3. Identify community groups, professional associations and trade organisations that could contribute to, or benefit from, training;
4. Identify, strengthen or develop standards or systems for professional certification or licensing that can promote sustained disaster risk reduction knowledge and skills;
5. Develop or strengthen national training programmes and centres, professional courses, seminars and workshops;
6. Produce training materials locally;
7. Identify or establish an appropriate information facility to compile, exchange and expand information about available professional training for disaster risk reduction.

3.3 Develop disaster risk reduction training for different groups of stakeholders

Questions to ask
In developing institutional support for the training initiative ask:

- What incentives could be provided through educational and training opportunities to ensure continued and sustained involvement from individuals? Are there certification schemes, conferences, seminars and networking opportunities?
- Are there local centres that can host and promote disaster risk reduction training to promote ownership?
- Are there provisions for adequate follow up to seminars and training workshops to ensure that knowledge and skills acquired are not forgotten?

C. Responsibilities and resources

Who should be involved?

In the design of training programmes, involve practitioners from the training's target group, training providers and disaster management officials.

What conditions facilitate the task?
Resources and support needed include:

- Executive and organisational support;
- Human, financial and material resources to create new training initiatives and to sustain existing ones with support and appropriate equipment;
- In-country capacity to design and conduct training.

D. Illustrative initiatives [further examples sought]

Training programme for engineers
Nepal

The Kathmandu Valley Earthquake Risk Management Project, implemented by the National Society for Earthquake Technology (NSET) in Nepal, offered more than 100 engineering students a summer training on safe construction that was otherwise not part of their curriculum. The students practiced conducting a building inventory and vulnerability analysis.

Source: Bothara, Jitendra Kumar, and R. Guragain, A. Dixit, National Society for Earthquake Technology-Nepal, Protection of Educational Buildings Against Earthquake Brochure, 2002.

Training programme for masons
India

The Mason Association is an association of masons and artisans that work in the informal construction sector. With support from the Sustainable Environment and Ecological Development Society (SEEDS), they offer a mason training programme to create a trained community of masons and artisans to ensure quality construction and create

safe living conditions. They train masons and construction workers in good construction practices. Members of the SEEDS Mason Association are provided with training for an examination conducted by the Government of Gujarat. Upon passing the exam, they are certified as trained masons. In addition to enabling certification, the training programme allows masons to stay abreast of new information regarding new materials and tools available, as well as job opportunities in the area. Other benefits of membership include discounts on construction equipment and a free newsletter.

Source: Seeds India, Seeds Mason Association, Mason Training Program Brochure, 2004.

E. Where to find further guidance [further references and tools sought]

Briceno, S., (2003): The International Strategy for Disaster Reduction and Sustainable Development: Public awareness, education and capacity building for the future. UN/ISDR

International Federation of Red Cross and Red Crescent Societies, (2001): Improving Basic Training Skills. To download at: http://www.ifrc.org/what/disasters/dp/manual.asp

Gulkan, P., (2000): What Emerged from the Rubble. To download at: http://www.chinaenvironment.net/pace/articles/more.php?id=38_0_2_0

Technology-Nepal, Protection of Educational Buildings Against Earthquake Brochure, 2002.

United Nations Disaster Management and Training Programme developed a wide range of crisis and disaster related training modules. To download at: http://www.undmtp.org/

3.4 Enhance the compilation, dissemination and use of disaster risk reduction information

A. Understanding the task

What is the purpose of this task?

The purpose of this task is to identify, compile, analyse and disseminate information and knowledge about natural hazards, disaster management and risk reduction issues for use by government, communities, organisations and practitioners.

Why it is important

Information is essential for effective decision-making and action. Given the abundance of existing information and the opportunities provided by modern communications and information technologies, there is a pressing need to identify and synthesise that information to enable easy access and use by people concerned with disaster risk. Existing information is frequently scattered geographically, fragmented professionally and under used. This limits the development and effectiveness of cross-sectoral involvement in disaster reduction and further excludes isolated communities from necessary knowledge.

How it relates to other priority tasks

This task builds on the task of evaluating information and planning for the dissemination of disaster risk reduction and early warning preparedness information outlined in task 2.4.

B. How to do it

Recommended steps

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Develop a comprehensive information management programme including the identification of unmet needs for the different types of information required for disaster risk reduction;
3. Identify and ensure the engagement of key actors from government, private sector, civil society and academic sectors in the collection, synthesis, dissemination and use of available information;
4. Create a detailed inventory of existing information that can and should be made public;
5. Evaluate appropriate means to provide information required by targeted audiences;
6. Foster exchange of information by building upon existing multi-disciplinary partnerships;
7. Identify or strengthen existing national and local information centres for disaster risk reduction, drawing on the benefits of neighbouring or regional information management facilities.

HFA Enhance the compilation, dissemination and use of disaster risk reduction information 3.4

Questions to ask

- What are the primary information resources available at national and local levels and in what format are they available?
- Is instructional material easily and freely accessible to people in communities most at risk?
- Can existing information products (databases, websites, etc.) be expanded or improved to more expediently and efficiently disseminate information?
- Is information available in relevant languages and sensitive to all relevant cultural and educational backgrounds, as well as age groups and abilities?
- Is there a policy for standardising disaster risk reduction messages (through the use of standard disaster risk reduction terminology) to ensure that information can be understood by all stakeholders?
- Are personal means of communication and daily contacts or local community facilities being used to disseminate disaster risk reduction information?

C. Responsibilities and resources

Who should be involved?
Government at all levels, women's networks and community groups, private sector, academic institutions and university research centres and research-based and policy-making organisations.

What are the conditions that facilitate the task?
Resources and support needed include:

- Willingness for stakeholders to share information;
- Proper technology to collect and disseminate data;
- Necessary capacities to use information.

D. Illustrative initiatives [further examples sought]

Regional programme for disaster risk reduction information dissemination from Africa

The University Network for Disaster Risk Reduction in Africa (UNeDRA) aims to foster interaction amongst universities in Africa teaching about disaster risk reduction through information sharing, capacity building and collaborative research. The project was initiated during a workshop in Kampala, Uganda, in September 2005 and is coordinated by: Disaster Management Training Centre (DMTC), University College of Lands and Architectural Studies (UCLAS), Tanzania; Regional Centre for Mapping of Resources for Development (RCMRD), Nairobi, Kenya; Makerere University, Kampala, Uganda; International Institute for Geo-Information Science and Earth Observation (ITC), Enschede, The Netherlands. UNeDRA will create an inter-university geoinformation network data centre and a database for natural disasters for sub-Sahara Africa; it will offer practical, short courses for lecturers and technicians, as well as for students, on tools such as hazards mapping; it will coordinate regular knowledge and data exchange through annual meetings; and it will establish a web community where ideas for research, future network activities, training opportunities, workshops etc. can be posted.

For further information: Visit the University Network for Disaster Risk Reduction in Africa website at: www.itc.nl/unu/dgim/unedra/default.asp

3.4 Enhance the compilation, dissemination and use of disaster risk reduction information HFA

E. Where to find further guidance [further references and tools sought]

PreventionWeb: UN/ISDR is developing a global information platform for disaster risk reduction to facilitate the work of disaster risk reduction professionals through the dissemination of relevant information, to provide a common platform for institutions to get connected, exchange experiences and share information on disaster risk reduction and to establish an environment which will encourage the creation and sharing of disaster risk reduction knowledge. It will furthermore facilitate the understanding of disaster risk reduction by non-professionals. ProventionWeb will be soon available at: http://www.preventionweb.net/#
For the time being UN/ISDR website offers a wide range of information in the field of disaster risk reduction at: http://www.unisdr.org/

ProVention Consortium website contains valuable tools and documentation on disaster risk reduction, including documents and articles relating to assessment techniques, international standards for assistance, vulnerability and risk reduction strategies. The site also highlights good practices and risk management methods. Both academic and more general publications are maintained and can be downloaded. See www.proventionconsortium.org

Relief Web: Launched in 1996 by the United States of America State Department, the U.S. Agency for International Development and the United Nations, ReliefWeb was developed to quicken the sharing of disaster information. An online repository of news sources, as well as a disaster-management related search engine, it acted as a stimulus for crisis management organisations and non-governmental organisations to post disaster information on a common platform. ReliefWeb now receives over a million hits a day, on more than 1,100 disasters. In 2004 ReliefWeb received the UN 21 Award for Best Knowledge Management Initiative. See www.reliefweb.int.

Chapter 4:

Reducing risk in key sectors

Hyogo Framework for Action Priority 4
Reduce the underlying risk factors.

Implementing Hyogo Framework for Action Priority 4 requires encouraging the sustainable use and management of ecosystems; integrating disaster risk reduction strategies and climate change adaptation; promoting food security for resilience; integrating disaster risk reduction planning into the health sector and promoting safe hospitals; protecting critical public facilities; implementing recovery schemes and social safety nets; promoting income-diversification options; promoting financial risk sharing mechanisms; establishing public-private partnerships; mainstreaming disaster risk considerations into land-use planning and building codes; and incorporating disaster risk assessment in rural development plans.

States can undertake a number of tasks to implement Hyogo Framework for Action Priority 4. This chapter recommends the following tasks:

1. Environment: Incorporate disaster risk reduction in environmental and natural resources management and programmes;
2. Social needs: Establish mechanisms for increasing the resilience of the poor and most vulnerable;
3. Physical planning: Establish measures to incorporate disaster risk reduction in land-use practices and human settlements;
4. Technical engineering: Strengthen mechanisms for securing building safety;
5. Financial/economic instruments in disaster risk reduction: Creating opportunities for private-sector involvement in disaster risk reduction;
6. Recovery: Develop a disaster recovery plan.

The following questions may be useful as indicators to assess progress in implementing the Hyogo Framework for Action Priority 4:

- Do the country's natural resource policies facilitate risk reduction? Do environmental and risk reduction managers and policy makers collaborate?
- Do national development plans, Poverty Reduction Strategy Papers and Common Country Assessment-United Nations Development Assistance Framework include disaster risk reduction?
- Are risk reduction parameters used to guide land-use development planning (e.g. for the protection of critical facilities and to avoid settlement in high-risk areas in slums)?
- What percentage of health facilities and schools conform to hazard-resistant standards?
- Is disaster risk reduction incorporated in recovery planning?
- Do national Millennium Development Goal reports include elements of disaster risk reduction?

4.1 Environment: Incorporate disaster risk reduction in environmental and natural resources management

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to develop a strategy and programmes to reduce risk from unsustainable natural resource use and protect the environment.

Why it's important

A healthy environment enhances society's disaster resilience in two ways: it reduces the impact of natural and human-induced disasters and it naturally mitigates against hazard events. Conversely, environmental degradation increases disaster risk from landslides, tsunamis, floods, droughts and other hazards. Reducing disaster risk and protecting the environment are complementary, and often, identical practices. Natural resource management measures, such as protecting soils from erosion and eventual desertification through sustainable farming and ranching reduce people's vulnerability to drought and flood. Maintaining and replanting mangroves can protect coastal populations and their livelihoods from storms and tsunamis. Maintaining watersheds by avoiding deforestation and diversion of waterways protects water quality and quantity, as well as preserves livelihoods dependent on fisheries. Risk-reduction measures, such as appropriate construction to withstand storm and flood, can also help communities in adapting to climate change.

Integrating disaster risk reduction and environmental management creates many synergies, such as reducing the cost of implementing parallel programmes and activities (through duplication), attracting funding by demonstrating multiple benefits, gaining visibility through politically important issues (such as climate change or a major disaster), advancing understanding by sharing information from each field and learning from each other's strategies to promote financial and political commitment. International finance institutions (e.g. World Bank) as well as United Nations agencies in charge of development and environmental management increasingly recognise the importance of linking disaster risk reduction with environmental and natural resources protection and are beginning to integrate the two in their funding strategies. Although each country has its own circumstances and priorities, two major issues that affect most countries and that are receiving international attention (and in some cases funding opportunities) are climate extremes and water scarcity.

How it relates to other priority tasks

Sound environmental management is linked to all areas of disaster risk reduction: disaster reduction dialogues or national platforms should include

Definitions

Ecosystem: A complex set of relationships of living organisms functioning as a unit and interacting with their physical environment. The boundaries of what could be called an ecosystem are somewhat arbitrary, depending on the focus of interest or study. Thus the extent of an ecosystem may range from very small spatial scales to, ultimately, the entire Earth.

Environmental degradation: The reduction of the capacity of the environment to meet social and ecological objectives and needs. Potential effects are varied and may contribute to an increase in vulnerability and the frequency and intensity of natural hazards. Some examples: land degradation, deforestation, desertification, wildland fires, loss of biodiversity, land, water and air pollution, climate change, sea-level rise and ozone depletion.

Environmental impact assessment: Studies undertaken in order to assess the effect on a specified environment of the introduction of any new factor, which may upset the current ecological balance. EIA is a policy making tool that serves to provide evidence and analysis of environmental impacts of activities from conception to decision-making. It is utilised extensively in national programming and for international development assistance projects. An EIA must include a detailed risk assessment and provide alternatives solutions or options.

UN/ISDR Terminology: Basic terms of disaster risk reduction

4.1 Environment: Incorporate disaster risk reduction in environmental and natural resources management

environmental managers (tasks 1.1 and 1.2); disaster reduction legislation, plans and programmes should integrate environmental management for disaster risk reduction (chapter 1); hazard identification and vulnerability assessment (chapter 2) should be integrated into environmental impact assessments; education curricula and campaigns to raise disaster risk reduction awareness should promote sustainable environmental practices (chapter 3); land-use planning should simultaneously protect critical ecosystems (task 4.3); and recovery efforts should ensure environmental protection (task 4.6).

B. How to do it

Recommended steps
To integrate disaster risk reduction into environmental management:

1. Form a task force with representatives of the ministry of environment/natural resources (or other similar bodies), main environmental groups active nationally, experts with experience in reducing risk from hydro-meteorological hazards in particular and national platform representatives;
2. Establish or strengthen mechanisms to systematically bring together representatives from disaster risk reduction (such as national platform members) and environmental networks;
3. Establish a plan for collaboration on existing activities and programmes by identifying areas of overlap and synergy (for instance, programmes to prevent drought, desertification and flood and for the protection of freshwater resources, coastal (reef), wetland, dryland and forest ecosystems);
4. Develop a data-exchange strategy to meet reporting requirements under national, bilateral, regional and international law and agreements (such as conventions on biodiversity, climate change and desertification and Hyogo Framework for Action implementation);
5. Institutionalise a mechanism for carrying out joint assessments that integrate disaster risk reduction and environmental protection parameters, such as for integrated risk-and-environmental-impact assessments;
6. Implement joint trainings to promote risk reduction and sustainable environmental practice, such as for identifying “green-engineering” alternatives to reduce risk;
7. Jointly seek funding and develop activities, projects and programmes that reduce risk and maintain ecosystem services, such as projects to reduce vulnerability to drought and climate change through resistant-seed dissemination;
8. Draft a strategy document outlining the agreed areas of joint work highlighting the benefits in furthering the environmental and risk reduction agendas, disseminate and promote the plan and institutionalise processes to support the plan.

Questions to ask
To identify areas of synergy for disaster risk reduction and environmental management, ask:

- Which "ecosystem services" or benefits from natural systems are threatened in the country (for instance, the services provided by vegetation include soil formation, regulation of water flows and water quality, as well as air purification; coral reefs act as fish nurseries and provide coastal protection)? Which populations depend on these services for their livelihoods?
- Do plans, projects and programmes to protect ecosystem services consider risk reduction measures and favour "green" engineering?
- Do land-use and other development projects require an environmental impact assessment? Does the assessment include disaster risk reduction parameters?

C. Responsibilities and resources

Who should be involved?

The task force should include representatives from environmental regulatory and planning agencies, environmental and disaster risk management practitioners, local governments, local institutions and community groups working on environmental protection and on natural resources management. Opportunities to tap into existing networks include topic-specific working groups such as for climate change or for water resources management.

What conditions facilitate the task?

- Mandate for collaboration between disaster risk reduction and environmental agencies, support from leaders, as well as funding and organisational support;
- Existence of consultative bodies that meet regularly on environmental challenges including risk reduction;
- A well-informed task force, knowledgeable about environmental and resources management programmes and government obligations in these areas, regulation and its implementation in various sectors.

D. Illustrative initiatives [further examples sought]

Disaster risk reduction/environmental management project
China

In 1999, a team from the United Nations Environment Programme (UNEP) visited China to identify the causes of the 1998 floods which affected an area of 25.78 million square kilometres, killed 3,656 people, swept away 5.7 million homes and damaged a further seven million, led to the relocation of nearly 14 million people and caused economic losses from industries such as agriculture totalling 31 billion USD. The Report of the UNEP Scoping Mission to the Yangtze River Basin identified three, key, environmental factors that significantly aggravated the impacts of heavy rains. These were sharp declines in the water retaining capacity of forests and grasslands due to deforestation and overgrazing, decreases in water storing capacity in the middle and lower reaches of the river due to loss of lakes and wetlands and silting up of the rivers and wetlands in the Yangtze basin as a result of rising rates of erosion. Since then, a collaborative effort by researchers in China and UNEP aims to restore thousands of lost lakes and natural drainage systems so that the river, whose banks and basins are home to 400 million people, can cope better during times of heavy and prolonged rains. The project plans to restore natural forests, grasslands and other key habitats in the upper and middle reaches of the Yangtze to reduce soil erosion and soil sweeping into the river. An early warning system will also be established to improve the response to future floods. The project will be managed by UNEP, Global Environment Facility (GEF), in partnership with China's State Environmental Protection Administration. A replication strategy and plan for the entire Yangtze River Basin based on lessons learned will be developed and implemented by the Chinese Government after project completion. Expected benefits of the project include increased volume of water the Yangtze can hold and absorption of carbon dioxide in the trees.

4.1 Environment: Incorporate disaster risk reduction in environmental and natural resources management

Disaster risk reduction environmental management
Vietnam

The Thai Binh branch of the Vietnam Red Cross undertook an environmental preservation project to address two issues affecting the coastal population of the Thai Thuy district, Thai Binh province. The motivation for undertaking this project was that eight to ten typhoon storms strike the coast of Vietnam annually and tidal floods often breach sea dykes causing economic losses to the local population engaged in aqua culture. The project involved creating 2,000 hectares of mangrove plantations, which served two important purposes. Firstly, the trees act as a buffer zone in front of the sea dyke system, reducing the water velocity, wave strength and wind energy. This helps protect coastal land, human life and assets invested in development. Secondly, the plantations contribute to the production of valuable exports such as shrimp and crabs, high-value species of marine fish, molluscs and seaweed for agar and alginate extraction. This offers new employment opportunities to help what was a poor population to improve their livelihoods. By helping to protect the sea dykes the mangroves contributed to the economic stability of the communities. All members of the community benefit as their homes, livestock and agricultural land are better protected from the risk of flooding. Poor families, with little money to repair or replace material losses from storm damage, are the greatest potential beneficiaries. The project area was struck by the worst typhoon in a decade two months before the project evaluation. Lack of any significant damage to the sea dyke and aqua culture pond systems in Thai Thuy provided the best possible indicator of the effectiveness of the mangroves.

Source: World Wide Fund for Nature, 2002

E. Where to find further guidance [further references and tools sought]

Asian Development Bank, (2005): Climate Proofing: A Risk-Based Approach to Adaptation. Manila.
UNEP, (2002): Global Environment Outlook 3 (GEO-3). 416 pp. To download at:
http://www.grida.no/geo/geo3/english/index.htm
UNEP, (2004): Africa Environment Outlook, Case Studies: Human Vulnerability to Environmental Change. 188 pp.
ISBN 92-807-2365-0.

4.2 Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to increase the resilience of the poor to disasters through social capital, empowerment and livelihood protection.

Definitions

Gender relations: see "Cross-cutting Issues" in the Guide's Introduction.

Please see definition of "vulnerability" in task 2.1. and of "resilience" in task 3.1.

Why it's important

The poor are the most vulnerable to disasters and have the least means to recover. Disasters can wipe out the livelihood means of the poor by destroying agricultural land and other livelihood assets. The vulnerability of the poor to disasters is increased by marginalisation due to physical ability, age, race and ethnicity and gender. By focusing on the protection of the more vulnerable population, the impacts of disasters can be reduced.

To realise the fundamental human rights of the poor to protection against disasters, governments establish programmes that promote asset enhancement, asset diversification, a safe built environment, social protection and empowerment through participation in governance. Such programmes are undertaken by government to avoid undermining the gains achieved through poverty alleviation programmes due to disasters. The poor—who live with physical disabilities, old age, gender or racial exclusion—also have resources and coping strategies that government can help develop to strengthen their resilience to disaster.

Although this task focuses on programmes to protect the private assets of the lower-half-income of the population, moderate-income families also need support to avoid becoming poor as a result of personal and business losses from a disaster (if they do not have financial protection such as insurance).

How it relates to other priority tasks

The task of increasing the resilience of the poor is closely related to institutionalising disaster risk reduction and allocating appropriate resources (task 1.4) as well as developing financial/economic instruments (task 4.5). It is also related to the successful integration of disaster risk reduction into sectors through sustainable natural resource use, land-use practice and measures for the safety of the built environment (chapter 4).

B. How to do it

A number of steps can be taken to protect the poor and their livelihoods, including:

1. Improve data quality through disaggregated statistics correlated to high-risk environments (e.g. age, disabilities, social disparities and gender);
2. Work with community leaders and workers in undertaking participatory risk assessment and reduction actions, such as improving drainage for flooding and landslides, developing water collection and retention facilities against drought, clearing debris and reducing fire hazards, undertaking flood protection and other measures to

4.2 Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable

protect water wells and ensure the recharging of the water table; and implementing other preparedness measures for individuals, households and schools, ensuring learning from previous experience;

3. Design gender-equitable compensation packages as a safety net to enable the very poor to recover minimum livelihood means after a disaster; plan for work-for-food or work-for-housing programmes as other protection means for the poor. For low-income farmers, design cash allocations and/or seed allocations to enable recovery;
4. Include provisions to address disaster risk reduction for the poor in the country's Poverty Reduction Strategy Paper (PRSP) in partnership with bi-lateral or multi-lateral aid agencies to contribute to the attainment of the Millennium Development Goals (see box below);

Poverty Reduction Strategy Papers are prepared by governments in low-income countries through a participatory process involving domestic stakeholders and external development partners, including the International Monetary Fund and the World Bank. PRSPs describe the macroeconomic, structural and social policies and programmes that a country will pursue over several years to promote broad-based growth and reduce poverty, as well as external financing needs and the associated sources of financing *(Source: International Monetary Fund).*

Five steps can be taken to approach mainstreaming disaster risk reduction into PRSPs:

Step 1: Analytical and diagnostic work

- Consider the role of vulnerability to natural hazards as part of the broader analysis to identify the poor, analyse the severity of poverty, identify correlated factors and underlying determinants and examine the constraints and priorities of the poor;
- Invite national platforms to participate in PRSP analytic and diagnostic tasks which include:
  - Superimpose spatial hazard maps on poverty maps (see Bangladesh example below);
  - Identify potential consequences of disasters for various levels of income and well-being of different groups;
  - Develop strategies to minimise risks and their implications for income.

Step 2: Set poverty reduction objectives

- Currently most PRSPs identify disaster risk reduction as an issue within other key priorities, such as a general reduction of socio-economic vulnerability. It would be important, especially for high-risk countries, to identify disaster risk reduction objectives within the core strategy for reducing poverty and for increasing economic growth.

Step 3: Prioritise public actions for poverty reduction

- Develop sectoral policies and programmes to address the Millennium Development Goals in various sectors including education, health, infrastructure;
- Adjust macroeconomic and structural adjustment policies, so that they address economic growth without increasing disaster risk. For example: user fees on irrigation do not reduce coping capacity of vulnerable;
- Decentralise, empower and allow fiscal autonomy to address risk at the local government level; for example, enact laws to ensure security of land right as incentives for risk-reducing investments;
- Include mitigation funds as part of regular budgets plans to ensure disaster resilient infrastructure and livelihoods assets.

Step 4: Establish monitoring and evaluation procedures

- Formulate quantitative indicators on disaster risk reduction related to Millennium Development Goals indicators, which the national governments have committed to monitor, preferably at disaggregated geoclimatic or geophysical zones (see example for indicators for eradicating extreme poverty and hunger below).

HFA Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable 4.2

Millennium Development Goals	
Goal 1. Eradicate extreme poverty and hunger	
Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.	Disaster risk indicator: • Proportion of population below $1 per day does not fluctuate with variations in hydro-meteorological phenomenon (rainfall, cyclones, floods) and hazard events like earthquakes. • Share of poorest quintile in national consumption does not decline in years of extreme weather and hazard events like cyclones, earthquakes.

Step 5: Implementation, evaluation and feedback

- Assess disaster risk achievements and shortcomings as part of the evaluation and draw on lessons learned to enhance the effectiveness of successor PRSPs;
- Hold participatory consultations on the relevance of disasters to poverty and discuss related options for strengthening resilience during the preparation of PRSPs.

Source: ProVention Consortium (2007): Guidelines on mainstreaming disaster risk reduction into Poverty Reduction Strategy Papers. Tools for Mainstreaming Disaster Risk, Guidance Note 3. Geneva: ProVention Consortium / International Federation of Red Cross and Red Crescent Societies

5. Include provisions to address disaster risk reduction in the Common Country Assessment (CCA) and United Nations Development Assistance Framework (UNDAF) in partnership with bi-lateral or multi-lateral aid agencies to contribute to attainment of the Millennium Development Goals (MDGs);

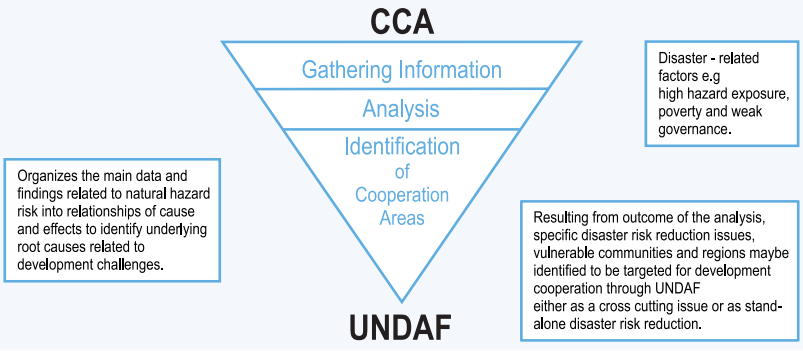
The Common Country Assessment/United Nations Development Assistance Framework (CCA/UNDAF) process is the common strategic framework for the operational activities of the United Nations System at the country level. It provides a collective, coherent and integrated United Nations System response to national priorities and needs within the framework of the Millennium Development Goals and the other commitments, goals and targets of the Millennium Declaration and the declarations and programmes of action adopted at international conferences and summits and through major United Nations conventions. The CCA is the main diagnostic tool available to the UN Country Teams and its partners for assessing and developing a common understanding of the underlying challenges faced by a country in its development process. The UNDAF emerges from the analytical and collaborative effort of the CCA and is the foundation for UN system programmes of cooperation.

CCA analysis includes three major steps:

Step 1. Incorporating disaster risk reduction into the CCA/UNDAF process
A thorough preparation of the CCA and UNDAF involves a wide consultative process of the UN System with national authorities, civil society, local and private sector in a wide consultative process. Significantly, the exercise itself provides a good opportunity to develop a consensus on key disaster risk reduction challenges facing society and on the best policy options for addressing the root causes. The following principles should guide the UN's programming process in preparing the CCA/UNDAF:

- Identify the root causes of disaster risk in terms of hazard exposure and vulnerability of exposed populations, infrastructure and economic activities;

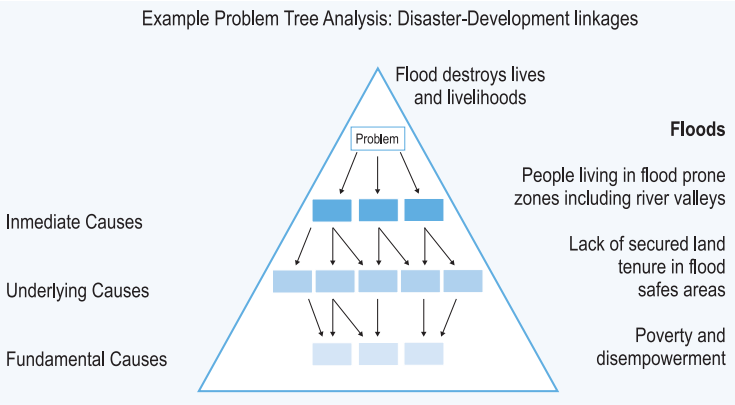
4.2 Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable



- Assess and develop lasting in-country capacities for disaster risk reduction at individual, institutional and societal levels;
- Aim to reduce vulnerabilities of the poorest, including indigenous peoples and migrants — usually most vulnerable to disaster risk. Reducing disaster risk and enhancing the coping mechanisms of poor communities should be analysed within the context of poverty alleviation programmes.
- Address specific hazard risks and vulnerabilities that may undermine the country's efforts to achieve the MDGs and other international conventions to which the country is party.
- Utilise lessons learned on DRR strategies from past development cooperation.

A checklist for evaluating the incorporation of disaster risk reduction into the CCA/UNDAF process is available in Annex 4 of the UN/ISDR - UNDP document: Integrating Disaster Risk Reduction into CCA and UNDAF Guidelines, which is available at: http://www.unisdr.org/eng/risk-reduction/sustainable-development/cca-undaf/Annex4-Integrating-DRR-into-CCA-UNDAF.doc

Step 2: Preparing the CCA
Incorporating disaster risk assessments in CCA may include:



- The compilation of relevant data and information on hazards affecting the country and consequent disaster risks;
- The determination of disaster risk levels involves the identification of hazard occurrence probability, elements at risk and vulnerability of the elements at risk to a particular hazard.
- An assessment of the underlying factors driving vulnerability increases and potential future disasters;
- An assessment of the national capacities available to address disaster risk reduction;
- The identification of indicators for reducing disaster risks associated with each potential development challenge.

The main data, trends and findings need to be transferred into cause-and-effect relationships, in order to identify root causes underlying the development challenges. Applying analytical tools such as a causality tree helps to identify contributing causes and clarifies their various determinants.

HFA Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable 4.2

Step 3: Preparing the UNDAF
After completion of the CCA, the UN—with its key partners—will address the core problems identified in the CCA process.

The UN Country Teams may organise a review, analysis and discussion around the CCA with all relevant national government and civil society actors, so as to develop a disaster risk reduction strategy for inclusion in the UNDAF. When major disasters occur between the CCA/UNDAF cycles, it may be necessary to prepare an addendum to the existing UNDAF. The UN Country Teams will then develop an outcome as shown in the example below.

UNDAF Outcome 1: Reduced number of households living in poverty through the realisation of economic potential and the provision of social welfare

Country Programme Outcomes	Country Programme Outputs	Partners
1.1 Increased Government capacity to adopt and implement government and joint poverty reduction policies and programmes, through the realisation of economic potential.	1.1.2 Creation of income generation opportunities through employment and production supported, including diversified income options for populations in high-risk areas to reduce their vulnerability to hazards (WB, IMF, IOM, WFP, FAO).1.1.3 Access to and the utilisation of resources by the poor, vulnerable and food insecure improved (WFP, WB, UNDP, IOM, FAO).	Ministry of Agriculture, Ministry of Labour, Health and Social Affairs, Ministry of Environment.
1.2 The adoption and implementation of government and joint social protection mechanisms addressing the needs of verified vulnerable population groups (pensioners, elderly, disabled adults and children, street children, children at risk of institutionalisation, disadvantaged households, and those vulnerable to disasters).	1.2.2 Formulation of social protection and child welfare system reform supported (UNICEF, WFP, UNDP, UNHCR, IOM) including micro-finance and social safety nets and micro-insurance schemes to insulate livelihoods against disaster risks.	State United Social Investment Fund, Ministry of Labour, Health and Social Affairs, Ministry of Justice, Ministry of Finance, Ministry of Education.

C. Responsibilities and resources

Who should be involved?

Social welfare and community health specialists; gender-development experts; government finance and planning departments; rural development and agriculture protection specialists; drought and water conservation specialists; community leaders, workers and volunteers; poverty reduction advocates; financial institutions and specialists with expertise in protection of low income and the poor; non-governmental organisations, humanitarian and volunteer organisations and donors.

4.2 Social needs: Establish mechanisms for increasing resilience of the poor and most vulnerable

What conditions facilitate the task?

Overall, a fundamental condition for success is for the country to have a well-defined poverty alleviation strategy and programmes. To facilitate the task, seek advice from experts in non-governmental organisations, community-based organisations and humanitarian agencies working on poverty reduction and work closely with social services and social welfare agencies and existing networks to understand the underlying vulnerability conditions of the poor as well as build or strengthen existing networks with women and community groups.

D. Illustrative initiatives [further examples sought]

Poverty- and risk-reducing project
Ecuador

Malnutrition affects one fifth of the population of Ecuador, and drought, flood, frost and general climate variability exacerbates the problem. Increased malnutrition in Ecuador is believed to be associated with crop failures associated with climate change. A proposed project for Ecuador aims to improve the understanding of climate variability and its effects on agriculture. Weather and climate knowledge and information acquired will be used to improve decision making by agricultural scientists, policymakers, extension agents and farmers themselves to increase food security and reduce malnutrition. An interdisciplinary team of geographers, agricultural scientists, nutritionists and climatologists will carry out the project. The project will combine satellite imagery and ground measurements needed for analysing weather and climate during the growing season in Ecuador. The goal is to understand the spatial and temporal distribution of three key variables for crop growth—solar radiation, rainfall and temperature. The final objective for the project is to create a network of food security and environmental professionals. The project with produce four direct outcomes: (1) research that compares ground-truth information and remotely sensed and secondary information; (2) public domain geographic and satellite information for agricultural and food security decision making; (3) information compiled and shared by a community of food security experts in Ecuador; and (4) training of Ecuadorian partners to use the system.

Source: International Center for Tropical Agriculture at: http://www.ciat.cgiar.org/

E. Where to find further guidance [further references and tools sought]

Froot, K. (ed.), (1999): The Financing of Catastrophe Risk. University of Chicago Press. Chicago.
Pantoja, E., (2002): Microfinance and Disaster Risk Management: Experience and Lessons Learned. The World Bank, Washington D.C.
ProVention Consortium (2007): Guidelines on mainstreaming disaster risk reduction into Poverty Reduction Strategy Papers. Tools for Mainstreaming Disaster Risk, Guidance Note 3. Geneva: ProVention Consortium / International Federation of Red Cross and Red Crescent Societies.
UN/ISDR, UNDP (2006): Integrating Disaster Risk Reduction into CCA and UNDAF Guidelines. To download at: http://www.unisdr.org/eng/risk-reduction/sustainable-development/cca-undaf/cca-undaf.htm

4.3 Physical planning: Establish measures to incorporate disaster risk reduction in land-use practices and human settlements

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to establish measures to reduce disaster risk in development planning, land-use and urban planning by incorporating hazard and vulnerability parameters, improving standards and practice and implementing and enforcing codes and regulations, as well as enacting measures to reduce informal urban settlements and improving the safety of slums and hazardous buildings.

Why it's important

Introducing hazard-sensitive, land-use development plans and urban planning will, in the long term, reduce the accumulation of risk resulting from rapid urbanisation. If risk parameters are considered in development plans, land-use urban and regional plans, appropriate provisions can be taken to address the risk. Because these provisions need to be incorporated by sector and require sector-specific expertise, line ministers and sectoral departments need to be engaged. In addition to ensuring better use of land, the introduction of sound practices in land-use planning and construction will help to curb corruption, improve standards of professional ethics and provide social betterment to professionals in several key trades. Yet risk-reducing land-use planning remains a challenge for a number of reasons.

The process of land-use planning and land-use allocation takes place in a political context and involves various competing interests and values. Thus, land-use allocation can only be resolved by developing a common understanding of the laws and regulations, economic and social pressures and an appreciation of relative risk. However, government institutions cannot by themselves ensure improvements in standards of practice and in enforcement of regulation and construction codes. Private sector, professional organisations and trade organisations can play a significant role in improving knowledge within their memberships and improving ethics and standards of practice. It is good practice to consult with members of affected communities and involve them in the process of land-use management and allocation, such as poor populations, which often do not have options and must settle in hazardous areas.

How it relates to other priority tasks

The task of incorporating disaster risk reduction in land-use practices and rural and urban planning is closely linked to strengthen mechanisms for securing safety of buildings and critical facilities (task 4.4).

Definitions

Land-use planning: Branch of physical and socio-economic planning that determines the means and assesses the values or limitations of various options in which land is to be utilised, with the corresponding effects on different segments of the population or interests of a community taken into account in resulting decisions. Land-use planning involves studies and mapping, analysis of environmental and hazard data, formulation of alternative land-use decisions and design of a long-range plan for different geographical and administrative scales.

UN/ISDR Terminology: Basic terms of disaster risk reduction

4.3 Physical planning: Establish measures to incorporate disaster risk reduction in land-use practices and human settlements

B. How to do it

Recommended steps

Many steps can be taken to reduce disaster risk through improved land-use planning and construction, including:

1. Evaluate the capability of agencies at all levels of government to understand, implement and enforce development land-use programmes, plans and regulation;
2. As needed, develop enforcement regulation and procedures to ensure that land is divided into zones of usage and restrictive rules aimed at curbing development in hazardous regions, such as areas prone to landslide, liquefaction, flood or cyclone (for instance, coastal areas) and seismic zones;
3. Work with national, provincial and local planning agencies to assess the extent to which hazard and vulnerability parameters are addressed and incorporated in planning processes and to understand the process of land use allocation, land use planning and development planning;
4. Ensure that line ministries and sectoral departments incorporate risk assessment and risk reduction measures in their programmes as such provisions are sector-dependent and require specific expertise related to the sector;
5. Develop a programme to discourage illicit/informal construction and initiate programmes aimed at re-location of construction in unsafe areas and abatement of unsafe buildings and slums;
6. Develop a training agenda for technical staff and regulators on procedures and techniques for incorporating hazard and vulnerability parameters in planning processes across sectors and in introducing minimum safety criteria. Ensure that the trainees include planners, regulators and professionals from local agencies and local practitioners in charge of local implementation and enforcement;
7. Work with professional and trade organisations to improve ethics and standards of practice within these professions and to empower them to take an active role in improving the standards of practice;
8. Design fiscal and other incentive packages for sound practices and also licensing and reward mechanisms for professionals such as architects, planners, engineers and contractors to improve standards for land use;
9. Develop procedures for incorporating disaster risk reduction into the project cycle and ensure the adoption of these procedures by financial institutions and regulatory agencies;
10. Develop a strategy to provide legal liability and options for legal recourse to punish negligent practices.

Questions to ask

In identifying a range of programmes for a policy package ask if the package includes elements that:

- Promote and incorporate disaster risk reduction among the various competing interests associated with the appropriation of land;
- Control informal construction and urban sprawling;
- Create partnerships and engage professional organisations, trade organisations and unions;
- Design and implement competent training programmes and professional skill enhancement programmes;
- Respond to the concerns and needs of the most vulnerable;
- Enable efficient enforcement procedures and liability actions;
- Create incentive mechanisms to encourage and promote sound land use and construction practices.

Physical planning: Establish measures to incorporate disaster risk reduction in land-use practices and human settlements 4.3

C. Responsibilities and resources

Who should be involved?

- Town and regional planning regulatory agencies and planning agencies;
- Local governments and local institutions, particularly municipalities;
- Representatives of professional organisations, trade organisations and trade unions;
- Community based organisations and community leaders.

D. Illustrative initiatives [further examples sought]

National land-use planning and management
Cuba

In Cuba, national land-use planning and management are integrated into risk reduction considerations. For over 40 years, the Institute for Physical and Spatial Planning has been the responsible body for the implementation of physical planning in the country. Its planning system integrates all scales of political and administrative jurisdictions in addressing a wide range of land-use issues. These include the management of natural resources, decisions about human settlements, the environment, hazards and vulnerability. The Institute defines regulations and provides methodologies for risk management that include building codes and risk zoning to reduce the physical vulnerability of households and critical infrastructure, especially in flood-prone areas. These and related tools for implementing land-use controls across the country are supported by well-integrated methodological and legal frameworks tied into the sustainable development processes of the country. In addition to the Institute, the national civil defence authority and the hydro-meteorological service are other key organisations in realising these strategies. As in other island states, coastal areas constitute the most fragile and complex ecosystems in Cuba. Their increasing exposure to the impact of natural disasters has motivated the Government to support studies on land-use management. At the national level, schemes define guidelines for the use of coastal areas, identifying priority scenarios for which higher resolution studies would need to be conducted. A hazard map for storm surges and additional vulnerability maps have been produced. The use of these maps allows relative levels of risk to be identified for settlements located in coastal areas. Several land-use regulations have resulted from this study, including specific recommendations for retrofitting, resettlement and urban growth regulations for 107 coastal settlements. The city of Havana provides an example of urban planning in a coastal zone. The city has a conspicuous breaker wall or malecón, stretching 7 kilometres along the sea, to reduce the impact of storm surges that periodically strike the city's coast. Zoning implemented through this plan, codes and standards for construction have been renewed. They aim to improve the organisational procedures, engage more effective means of construction and promote sound rehabilitation in the area. Basements have been rebuilt, the heights of buildings regulated and new landscape designs for public areas adopted. Land-use management and urban planning in Cuba are economically and technically feasible tools for disaster reduction. Initiatives in land-use management and urban planning have involved communities in the identification of local problems, in the planning process and in implementing the decisions taken about land-use management. The multi-disciplinary and inter-institutional nature of the work has helped to establish a conceptual and more methodical basis for effective disaster risk reduction.

Source: UN/ISDR, (2004): Living with Risk

4.3 Physical planning: Establish measures to incorporate disaster risk reduction in land-use practices and human settlements

School safety as part of post-conflict reconstruction - Community based disaster management
Afghanistan

Afghanistan frequently experiences disasters such as earthquakes, floods, sandstorms and extreme winter weather. What makes the response and recovery processes difficult is the low capacity left after more than two decades of war and internal conflict. As part of the community, school children suffer from both disasters and post-conflict hardships. School buildings are weak, old and poorly maintained. Infrastructure is very poor and there are hardly any resources in the local administrations to improve things. Most crucially, knowledge resources on mitigation and preparedness are extremely scarce.
In 2003, under the arrangement with the United Nations Assistance Mission in Afghanistan (UNAMA) and the Department of Disaster Preparedness (DDP) of the Government of Afghanistan, the Sustainable Environment and Ecological Development Society (SEEDS) carried out a consultation process for the preparation of the National Disaster Management Plan for Afghanistan. The following year SEEDS worked with UNAMA and DDP for dissemination of the National Plan towards Community Based Disaster Management in Afghanistan. The dissemination activities included awareness and capacity building of line ministries, provincial and district governments and schools. The school component was important as this was viewed as the critical link between government plans and community initiatives.

For further information: Visit UN/ISDR website at: http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/case-study-afghanistan-en.pdf

E. Where to find further guidance [further references and tools sought]

Kreimer, A., Arnold, M., Carlin, A., (2003): Building Safer Cities - The Future of Disaster Risk. Disaster Risk Management Working Paper Series No. 3. World Bank. 324 pp. To download at: http://www.proventionconsortium.org/themes/default/pdfs/Safer_Cities.pdf
Mitchell, J.K., (1999): Crucibles of Hazards: Mega-cities and disasters in transition. United Nations University Press. 535 pp. ISBN: 92-808-0987-3.

4.4 Technical engineering: Strengthen mechanisms for securing building safety

A. Understanding the task

What's the purpose?

The purpose of this task is to strengthen mechanisms for securing building safety and protecting critical facilities and infrastructure, thus reducing loss of life and livelihoods as well as the costs of recovery.

Why it's important

The protection of critical facilities and infrastructure, for instance through relocation from vulnerable locations or structural retrofit, reduces the impact of disasters significantly making them more manageable and less costly to the state. In a disaster, countries cannot afford to lose hospitals, emergency centres, schools, communication systems and transportation routes, shelter facilities and government services buildings. The social impact of a disaster can be reduced by ensuring prompt resumption of essential services, such as power, sanitation, water and access to basic government functions.
It is also necessary to adopt and enforce building codes and competent construction standards, to ensure that all new construction is safe, thus reducing vulnerability and potential losses from future hazard events. Buildings and infrastructure can be designed to be resistant to hazardous events, such as earthquakes and extreme winds, as knowledge on how to build safe and collapse-free buildings and infrastructure has existed for years.

How it relates to other priority tasks

The task of reducing the vulnerability of assets, critical facilities and infrastructure is closely related to that of developing financial and economic instruments such as insurance (see task 4.5) and to incorporating disaster risk reduction measures in land-use and urban planning (see task 4.3), as well as in natural resource use and environmental management (task 4.2) and planning for recovery (see task 4.6).

Definitions

Building codes: Ordinances and regulations controlling the design, construction, materials, alteration and occupancy of any structure to ensure human safety and welfare. Building codes include both technical and functional standards.

Critical facilities/emergency services: Those facilities (such as hospitals, power stations, lifelines) and services (such as Police, Fire Service, Ambulance, Red Cross/Crescent, voluntary agencies) that have certain specific responsibilities and objectives in serving and protecting people and property in any disaster situation.*

Retrofitting: Reinforcement of structures to become more resistant and resilient to the forces of natural hazards. Retrofitting involves consideration of changes in the mass, stiffness, damping, load path and ductility of materials, as well as radical changes such as the introduction of energy absorbing dampers and base isolation systems.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction
** Definition under discussion and listed here as draft material for the information of readers.*

4.4 Technical engineering: Strengthen mechanisms for securing building safety

B. How to do it

Recommended steps

Steps to follow to protect critical facilities:

1. Develop an inventory of critical facilities and identify their importance to the survivability and the recovery of the nation in case of likely hazard events;
2. Analyse the risks to these critical facilities using the results of risk studies (task 2.2) and if necessary additional surveys and studies, including highly vulnerable locations for priority action;
3. Undertake a study to understand options for reducing key facilities' vulnerability and their cost;
4. Develop priorities for immediate investment in improved resilience, including retrofit, replacement and redundancy/back-up capabilities;
5. Develop sector-specific critical facility plans and programmes for ensuring life, safety and continuity of services in case of a hazard event, including hospitals and health care facilities, communications networks, water and sanitation systems, energy transportation, etc.;
6. Establish a long-term strategy and programme to accomplish critical facility strengthening;
7. Partner with utility companies and industry owners to develop a programme to reduce vulnerability in their sectors.

Steps to follow on building safety:

1. Review building code regulations and procedures to check appropriateness to known risks and check the practicalities for their implementation;
2. Evaluate the capability of agencies at all levels of government to understand, implement and enforce building code regulation;
3. Develop a training agenda on procedures and techniques for incorporating hazard and vulnerability considerations in construction and related planning processes, for planners, regulators and professionals from agencies and practitioners in charge of local implementation and enforcement;
4. 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;
5. Foster training programmes for hazard-resistant construction among professional societies, trade associations, housing cooperatives and community-development organisations;
6. Develop a programme aimed at relocation of construction in unsafe areas, renovate unsafe buildings and discourage illicit/informal construction, including through use of urban renovation and economic redevelopment projects;
7. Design incentive packages for sound practices, licensing and reward mechanisms for professionals such as architects, engineers and contractors to improve standards for construction;
8. Develop a strategy to provide legal liability for negligent practice and options for legal recourse for the recovery of damages;
9. Undertake an education campaign for potential home buyers and for the informal construction sector to increase awareness about minimum safety provisions.

C. Responsibilities and resources

Who should be involved?

In addition to representatives from industry and government as described above, consider involving engineering experts from academia, as well as community development organisations.

D. Illustrative initiatives [further examples sought]

Programme for critical-facilities protection
Turkey

On 18 October 2005, the World Bank and the Turkish Government signed a loan agreement for 310.00 million € for the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP). The ISMEP project's main objective is to transform Istanbul in the next 10-20 years into a city more resilient to a major earthquake. The overall goal of the project is to save lives and reduce the social, economic and financial impacts in the event of a major earthquake in the Istanbul region. The specific objective of the project is to improve the city of Istanbul's preparedness for a potential earthquake through enhancing the institutional and technical capacity for disaster management and emergency response, strengthening critical public facilities for earthquake resistance and supporting measures for better enforcement of building codes and land use plans. The Istanbul Special Provincial Administration will be the responsible agency on behalf of the Republic of Turkey. The project will include several disaster risk reduction components, including: seismic risk mitigation for public facilities aiming to reduce the risk of future earthquake damage to critical facilities in order to save lives and ensure their continued functioning in the event of an earthquake, through retrofitting of hospitals, schools and other priority public facilities. It will also support innovative approaches to better enforcement of building codes and compliance with land use plans and support the Istanbul Provincial Administration to implement the project in an efficient and transparent manner, as well as build the institutional capacity to sustain the implementation of Seismic Risk Mitigation and Preparedness Program beyond the life of the project.

Source: The World Bank

National building codes
Nepal

The Bureau of Standards and Meteorology has initiated a process for defining the draft Building Code as a Nepal Standard. Several of the 22 documents prepared for the National Building Code, which focuses on seismic safety, were accepted as Nepal Standards. In 2003, the Council of Ministers decreed that the stipulations of the National Building Code should be made obligatory for all government-building constructions. It also urged the municipal authorities to strengthen the current building permit process so that code compliance will be mandatory for all new constructions in urban areas. Kathmandu Metropolitan City (KMC) has started implementing building code 2060 from 21 August 2005, for the construction of buildings within the city. As of September 2005, people who wish to construct buildings within the city have to fill the forms of both building by-laws and building codes before they can get their blueprints endorsed.

Source: Earthquakes and Megacities Initiative, Sound Practices

4.4 Technical engineering: Strengthen mechanisms for securing building safety

An example of the need for building standards
Algeria

Prior to 1990, the property development market in Algeria was in large part state-owned and building control laws forced a standard for construction of safety for all public buildings. As a result, most of the construction was controlled through a process of standards and regulation put in place by the state. However, after 1990, the real estate and development market was liberalised. Land was given to local municipalities and was then sold on the private market. There was a high demand on housing and a boom in construction. The laws for building quality control did not change, however,the building standards only applied to public buildings. Most construction was quickly developed without any controls or standards. When the Boumerdes earthquake hit in May 2003, it demonstrated the weakness of the post-1990 construction, as a large majority of the losses, both material and human, took place in those buildings. The lesson learned is that building code enforcement has to address both publicly owned and privately owned property, ensuring a minimum safety standard in all buildings.

Source: UN/ISDR: Living with Risk, pp. 83-5 337

Local risk management in earthquake zones of Kazakhstan
Kazakhstan

Due to the diversity of landscape, climate conditions and industrial infrastructure, Kazakhstan is at risk of high levels of natural and man-made disasters, in particular to strong and devastating earthquakes. Approximately 30 percent (650,000 km2) of Kazakh territory is home to more than six million inhabitants and a high concentration of industrial facilities (40%) are located in highly seismic zones.

An estimated 200,000 residents in Almaty live in buildings that are vulnerable to seismic hazards, and it is projected that up to one third of all residential buildings would be destroyed in the event of a catastrophic earthquake. This does not include public infrastructure such as schools, hospitals, power plants and other critical facilities, which are also at great risk. Given the unlikelihood that existing structures will be retrofitted to protect against seismic vulnerability, a comprehensive seismic safety programme must include building the capacity of local organisations to respond to emergencies. The framework outlined below not only advanced the critical educational messages being communicated under the Central Asia Region for Earthquake Safety Initiative (CARESI), but also promoted the response capacity of one of Kazakhstan's leading non-governmental organisations that has a proven track record in delivering disaster preparedness, response and health services.

In response to an umbrella initiative of the UNDP's Bureau for Crisis Prevention and Recovery, Disaster Reduction Unit (UNDP/BCPR/DRU), the Government of Kazakhstan and UNDP in Kazakhstan designed a joint project to support local risk management in earthquake zones of Kazakhstan.

For further information: Visit UN/ISDR website at: http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/case-study-kazakhstan-en.pdf

Gujarat school safety initiative
India

A devastating earthquake hit Gujarat in western India in 2001. The tragedy was marked with a very high number of casualties among school children. Many school buildings collapsed, trapping children and teachers under the rubble. The loss of 400 school children in the city of Anjar is one of the many school-based incidents that are etched in the memories of those who lived through the disaster. Extensive rehabilitation programmes followed the earthquake, into

which were woven elements of disaster mitigation and preparedness. The Gujarat State Disaster Management Authority (GSDMA) and national non-governmental organisation, Sustainable Environment and Ecological Development Society (SEEDS), took up the Gujarat School Safety Initiative, a first of its kind in the region.

The project mainly addresses three issues:

- Understanding and preparedness amongst school children, teachers and parents to reduce disaster risk in schools and to be prepared to act appropriately in an emergency;
- Disaster risk awareness amongst teachers so that they are able to impart disaster education to children more effectively;
- Direct implementation of school-based preparedness activities (carried out in 175 schools) and teacher training (conducted in 25 districts).

For further information: Visit UN/ISDR website at: http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/pdf/case-study-india-en.pdf

E. Where to find further guidance [further references and tools sought]

Committee, under the chairmanship of Louis Solway, (1995): Megacities: Reducing vulnerability to natural disasters. Thomas Telford, ISBN 0 7277 2068 6

Key, D., (ed.), (1995): Structures to withstand disasters. Bristol University, Thomas Telford, ISBN 0 7277 2067 8.

Bachmann, H., (2002): Seismic Conceptual Design of Buildings-Basic principles for engineers, architects, building owners, and authorities. Swiss Federal Office fro Water and Geology, Swiss Agency for Development and Cooperation.

4.5 Financial/economic instruments: Creating opportunities for private-sector involvement in disaster risk reduction

A. Understanding the task

What's the purpose of this task?

The purpose of the task is to establish an enabling environment with appropriate fiscal policy mechanisms (i.e. tax deductions for investing in community risk reduction projects) and innovative instruments (i.e. transferring some corporate shares to the community-based organisations) for creating a space for the private sector to contribute to risk reduction activities.

Why it's important

The Hyogo Framework for Action recognises governments as having the primary responsibility for guiding the implementation of disaster reduction in national terms. The Hyogo Framework for Action specifically calls for the important role that business enterprises and the 'private sector' can play in working more purposefully and effectively with national government authorities and the Global Platform of the ISDR system.

National and multinational companies provide economic value to national gross domestic product (GDP) that greatly exceeds all external development assistance provided. Small and medium enterprises engage local population in productive activities and are keen to sustain economic and social stability in local communities. Many technical abilities and managerial skills essential to disaster risk reduction exist in businesses. These professional resources could benefit public efforts at the national and community levels and ensure sustained attention to disaster risks.

Neither businesses nor governments are interested in interruption of their operations. Citizens are also workers, customers or residents of a particular community. For these reasons, successful reduction of disaster risks requires the involvement and sustained commitment of both public and private parties. Multi-stakeholder national platforms and other forums can encourage dialogue and develop common interests. When common threats from natural hazards and mutual benefits of reducing risks are well understood, private-public community partnerships could emerge as a tool to combine resources for disaster reduction.

Well designed, correctly located and economically robust business enterprise is central for increasing resilience of businesses and societies to disasters. The financial and reputational impact of mishandling physical, economical and social risks can be extremely damaging for the companies and could significantly erode their brand and stocks values. Companies should look for opportunities to reduce risks to their operations, communities they co-exist with and to their business environments that include supply and distribution networks. Government can facilitate this process by creating appropriate and innovative fiscal and other policy measures, for instance to promote microcredit schemes,

Definitions

Public-private partnership: A voluntary association of both state and non-state actors or organisational entities typically drawn from government, business, professional and/or academic institutions and other elements of civil society to address commonly held objectives through shared resources, skills and abilities. Partnerships typically involve some form of joint decision-making and sharing of responsibilities, opportunities and risks in recognition that the combined value of their respective attributes provide greater potential for accomplishment than would be possible through individual efforts.

Microfinance and microcredit: 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.

Source: Microcredit Summit Campaign at: http://www.microcreditsummit.org/Aboutmicrocredit.htm

insurance, safer construction and information technologies useful for early warning. This will ensure participation of the private sector in risk reduction and also generate much needed investment for risk prevention and mitigation activities.

Some of the benefits of partnership with the private sector include:

- It enables government to leverage investments in disaster risk reduction activities;
- It taps the knowledge, resources and expertise in the private sector;
- It integrates risk reduction, risk transfer and mitigation activities with the market forces;
- It enhances the sustainability of risk reduction business practices.

How it relates to other priority tasks

The task of creating opportunities for private sector involvement relates closely to engaging in a multi-stakeholder dialogue (see task 1.1), as the private sector should be involved therein. More generally, it relates to all the sectors and issues discussed in chapter 4 of this Guide, as in every sector there are opportunities for developing synergies with the private sector.

B. How to do it

Recommended steps

Modalities of enraging private sector might be very different depending on country specific conditions, it is usually helpful to proceed with the round-table meeting that could enable dialogues among government officials and private sectors to identify areas of mutual interests for joint disaster risk reduction practices. Based on emerging areas of common interest, governments could engage business leadership skills, professional abilities and resources in development practices that reduce risks for communities and companies. In each country it is important to identify modalities of joint projects that could accommodate both constraints and opportunities of private and public partners.

Before convening round-table, review existing partnerships with the private sector, identify what are major risks facing corporate interest in the national context. Identify what risks might be better dealt with through risk avoidance practices, mitigation or risk transfer mechanisms.

Risk avoidance practices, use corporate expertise, such as Enterprise Risk Management, to identify opportunities to avoid risks by not giving construction permissions or licenses to operate for public and private organisations applying for operations in the high risk areas, such as flood plains, costal zones and land-slide prone areas.

Risk mitigation, use corporate expertise and investments in identifying and retrofitting lifeline facilities that are situated in hazardous areas (hospitals, municipalities, oil depots, etc.) and, if damaged, could interrupt normal operations of businesses and communities. Use the same approach to the lifeline faculties' networks (like power lines, communication networks, water supply and sanitation, etc.). Consider offering corporate partners to create pooling of resources and, for example, create reliable corporate power generation facility for a community of businesses in the same municipality rather than create individual stand-by generators in each enterprise. Alternatively, co-invest in increasing reliability of municipal utilities that will stay operational during the expected hazardous conditions like flood, cyclone, earthquake and forest fires.

4.5 Financial/economic instruments: Creating opportunities for private-sector involvement in disaster risk reduction

Risk transfer, consider insurance and re-insurance both for physical damage and business interruption coverage that would provide cash compensation immediately after the disaster. To the extend possible, create large pool of insured to avoid paying high premiums and introduce mandatory insurance for those businesses and public institutions that have to operate in the hazardous conditions.

The main support governments could provide to the corporate sector is in the predictability of policies that have direct impact on business operations. Predictability could be achieved through provision of long-term licenses to operate, based on mutually agreed conditions, that could include, for example, commitments of businesses to contribute to disaster risk reduction activities with direct benefits to the local communities. If incentives are introduced, these should be supported by clear and consistent taxation policies.

While each country is different, some generic actions could be considered. For example, in countries willing to develop partnerships, governments could create national partnership task forces. Similar to the successful South Africa Municipal Partnership Task Force, which explores opportunities and identifies incentives needed for successful operations of partnerships. National partnership task forces could be part of or linked with the disaster risk reduction national platform office depending on the scope of its mandate. If partnership task forces will look exclusively on disaster risk reduction partnerships, it can also serve as a national focal point to support such partnerships. If the mandate of the partnership task force will be broader than disaster risk reduction, initial partners can determine the best hub to support incubation and development of partnerships. Emerging networks of partners could choose the government, the development partner or a chamber of commerce as the hub of operations. The partners might use existing national networks or create their own alliances for disaster risk reduction. In large countries, such alliances could also be sub-regional and municipal.

The task force could consider the following activities:

1. Identify business opportunities in disaster risk reduction in which private sector can take part;
2. Create an incentive structure for investment in such business opportunities;
3. Facilitate private investment in disaster risk reduction activities by introduction of innovative fiscal measures like concessions on income tax, capital gains tax, property tax for investment on safe housing and other risk reduction activities;
4. Encourage information technology and telecommunication companies to design people-centred products and services for early warning dissemination;
5. Encourage construction companies to design disaster-resistant temporary and permanent shelter for disaster-affected populations;
6. Encourage businesses to earmark part of their resources for 'Corporate Social Responsibility' to disaster reduction activities;
7. Diversify micro-credit and insurance products to increase the asset-base and incorporate risk-mitigation component;
8. Promote the inclusion of specific post-disaster recovery needs of the poor of people of physical or age disabilities through micro-credit and insurance products and services;
9. Integrate micro-credit services with programmes of traditional and non-traditional skills development and market linkages;
10. Study and evaluate the potential for using micro-finance and micro-credit as means to support recovery for those who can afford to re-pay loans and/or support interest payments;
11. In collaboration with the private sector, develop training programmes in welfare assistance programmes to improve skills and create income-diversification options for the poor;
12. Assess current practice and efficiency of current insurance and re-insurance mechanisms in covering catastrophic events for the public sector, private sector and personal residences;

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13. Use public subsidies in an innovative manner as a cushion for promoting the growth of insurance business. The economic benefits of such subsidies may be much more cost effective than post disaster relief and rehabilitation;
14. Establish crop insurance where government subsidises the premium payments of the poor, thus saving on relief funds; develop life insurance for household earners as part of poverty-reduction programmes; and in publicly funded housing establish compulsory insurance with reduced premiums for risk reduction;
15. Consider establishing compulsory home insurance to protect against disasters (see example below from Turkey);
16. Introduce innovative fiscal policy measures like concessions on property tax and income tax for homeowners and businesses that undertake appropriate risk reduction measures;
17. Assess necessary reforms in laws and regulations to enable new financial mechanisms to be implemented;
18. Evaluate the possibility of establishing a national catastrophe fund, which can be used both for paying for recovery and reconstruction and also for engaging projects for disaster risk reduction; as an alternative, consider issuing a catastrophe bond to cover losses to critical public infrastructure.

C. Responsibilities and resources

Who should be involved?

Private sector representatives should be included in a national platform, partnership task force or standing inter-agency committee or council that meets regularly and actively pursues a risk reduction agenda through inter-agency cooperation.

What conditions facilitate the task?

Some of the conditions that facilitate the task include top-level support from the government, a clear mandate, proactive leadership, a strong core group of committed corporate partners and incentives for action.

D. Illustrative initiatives [further examples sought]

Disaster risk reduction insurance programme
Turkey

The last of Turkey's two major earthquakes in 1999 (with magnitudes of 7.4 and 7.2) in the Marmara region resulted in the loss of thousands of lives and placed an enormous financial burden on the economy and the Government. Before 2000, earthquake insurance in Turkey was provided mostly as an addition to fire and engineering insurance. The coverage rate was also quite low, especially for residential buildings (5 percent). The impacts of disasters and the low level of insurance coverage led the Government to initiate studies to promote disaster insurance and establish a widespread and effective earthquake insurance system. The political momentum created by the Marmara earthquake and recognition by the public and the insurance industry that action was needed led the Government to introduce a compulsory earthquake insurance scheme in 2000 for all residential buildings that fall within municipal boundaries. The Turkish Catastrophe Insurance Pool (TCIP) was created to offer this insurance. It was established under the supervision of the Undersecretary of the Treasury to offer insurance at reasonable premiums. The compulsory earthquake insurance scheme aims to limit the financial burden earthquakes place on the Government budget, ensure risk-sharing by residents, encourage standard building practices and establish long-term reserves to finance future earthquake losses. The compulsory earthquake insurance scheme provides compensation to homeowners without reverting to the Government budget. This effectively maintains social solidarity and risk-sharing

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by the payment of affordable insurance premiums. Meanwhile, a significant portion of the risk is ceded to international reinsurance markets until sufficient financial resources are accumulated within TCIP.

To encourage compliance, homeowners must present their insurance policy documents at real estate registration offices for the sale and purchase of homes. A recent plan involves extending insurance requirements to other public services and creating new checkpoints. If these new checkpoints are applicable, homeowners will be obliged to present insurance policy documents when opening accounts for gas, water, electricity and telephone services.

Source: The World Bank

Risk-reduction programme through micro-credit
Bangladesh

Although originally thought unfeasible, social and economic initiatives to foster development through grass-roots lending schemes and micro-investment programmes have been applied with considerable success by the Grameen Bank in Bangladesh and more localised social mutual aid funds. Grameen Bank targets and mobilises the poor and creates social and financial conditions so that they receive credit by identifying a source of self-employment in familiar rural non-farm activities. The Bank's method of targeting the poor is effective as it mobilises only those who are willing to bear the costs of group formation, training and monitoring each other's activities and those who are satisfied with the relatively small sums they can borrow and repay. To better meet its ultimate goal of social and economic development, Grameen Bank targets women more than men. By doing so, it directly channels credit to the poorest and the least empowered and helps improve the living standards of their families. Along with providing credit, Grameen Bank offers guidelines to members for codes of conduct and activities aimed at improving their social and financial conditions. It also provides training to women in maternal health, nutrition and childcare to generate greater demand for basic health care services. In 1993, an analysis of social and economic benefits provided by Grameen Bank, performed by the World Bank, found that "preliminary analysis suggests that Grameen Bank has generated a number of benefits both at the household and village level. Programme participation has enabled members to enhance their assets and networth. For example, a programme participating household owns 56 percent more resources and 51 percent more networth than a non-participating household. Programme participation has also increased calorie intake, especially among female household members. The incidence of poverty is substantially reduced among programme participants. Labour force participation, especially among women, is higher among participants than non-participants; women's labour force participation is 66 percent among programme participants compared to 52 percent for non participants. The school participation rate of girls is also higher for participants (57 percent) than for non-participants (36 percent). In addition, programme placement generates income gains for the poor as a whole through its impacts on the local resource allocation. For example, the daily male wage is 23 percent higher in programme villages compared with non-programme villages.

Source: Grameen Bank promotional literature; S. R. Khandker, B. Khalily and Z. Khan, (1993): Grameen Bank: What Do We Know? World Bank, Education and Social Policy Department, Washington, D.C.

E. Where to find further guidance [further references and tools sought]

Benson, C., Clay, E., (2002): Bangladesh: Disasters and Public Finance. Disaster Risk Management Working Paper Series No. 6. World Bank.

Chakrabarti, D., Bhat, M.R., (2006): Micro-Finance and Disaster Risk Reduction. Proceedings of International Workshop on Disaster Risk Mitigation: Potential of Micro-Finance for Tsunami Recovery, New Delhi, October 15-15, 2005. National Institute of Disaster Management, New Delhi.

Miamidian, E., Arnold, M., Burritt, K., Jacquand, M., (2005): Surviving Disasters and Support8ing Recovery: A Guidebook for Microfinances Institutions. Disaster Risk Management Working Paper Series No. 10. World Bank.

UN/ISDR, (2005): Invest to prevent disasters. Prepared for the International Day for Disaster Reduction 2005. For further information visit UN/ISDR website at: http://www.unisdr.org/eng/public_aware/world_camp/2005/2005-iddr.htm

Witte, J.M., Reinicke, W., (Global Public Policy Institute), (2005): Business UNusual Facilitating United Nations Reform Through Partnerships. Commissioned by the United Nations Global Compact Office, Published by the United Nations Global Compact Office. United Nations publication, ISBN 92-1-100980-4. To download at: http://www.globalpublicpolicy.net/businessUNusual/down/files/Report_in_full.pdf

4.6 Recovery: Develop a disaster recovery plan

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to develop a recovery plan that reduces future risk and effectively enables post-disaster recovery using an integrated disaster risk reduction approach.

Disaster recovery planning is an integral part of disaster management and risk reduction. The inclusion of recovery planning in disaster risk reduction has signified a move away from simply a focus on rehabilitation to firmly placing disaster management into the sphere of development. This shift has forced policy makers and practitioners to look beyond replicating the pre-disaster situation of communities to address, in a participatory manner, socio-economic vulnerabilities of communities affected by disasters. This implies pre-disaster recovery planning that factors in risk reduction in recovery and reconstruction efforts.

Definitions

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.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

Why it's important

The long time spans required for the negotiation and approval of development funding generates a gap between humanitarian assistance and the initiation of reconstruction programming in which affected people are usually left without support for recovery. Reconstruction frequently leads to rebuilding the conditions of risk, which existed before the disaster.

While recovery clearly occurs after a disaster has struck, recovery planning is both a pre- and post-disaster task. The former allows for existing information to be used to build contingencies and the latter for making adjustments according to the impact of the disaster.

Usually disaster preparedness planning is undertaken to address likely disaster scenarios (through contingency plans; see task 5.3). Less often these plans include preparations for post-disaster recovery actions. Preparedness for recovery efforts should be informed by the lessons learned from previous disasters as well as knowledge of risk reduction measures, to avoid the reconstruction of risk and to address the underlying causes.

How it relates to other priority tasks

The task of developing risk-reducing recovery plans hinges on access and analysis of risk information and early warning (chapter 2) and on integration into the country's preparedness system (chapter 5).

B. How to do it?

Recommended steps
To develop a recovery plan that reduces future risk:

1. Organise the management of this task. See section "Managing the suggested tasks" in the Guide's introduction;
2. Collect available documentation on physical and economic development and redevelopment plans and documentation. Assess the hazards and activities, institutions and structures most at risk from those hazards and their vulnerability. Review capability assessments (see task 5.2) to ascertain what resources and capabilities are available to respond and recover from disaster; examine the strengths and weaknesses of the organisations responsible for responding to emergency situations, managing recovery and reducing losses;
3. Analyse risk and capacity assessments to determine needs and appropriate responses to various kinds of disaster events, as well as the kinds of mitigation measures that should be built into recovery and reconstruction from various disaster scenarios;
4. Identify lead agencies for undertaking recovery planning and implementation to various types of disasters and assign roles;
5. Create systems for communicating situation information, needs and orders to and from those in charge;
6. Establish linkages and mechanisms for coordination between agencies, levels of government and with the private sector and the public;
7. Draft a plan for recovery and consult with government departments, interested organisations, businesses and the public. Establish a mechanism for receiving reviews and addressing concerns;
8. Make necessary changes, publish and arrange for adoption and signing of the plan by representatives of all affected organisations;
9. Widely disseminate and publicise the major tenets of the recovery plan;
10. Establish processes for testing, exercising and revising the plan in accordance with changing circumstances and requirements.

Sectors addressed in recovery planning
Some sectors typically addressed in a recovery plan are:

- Rehabilitation/recovery of infrastructure and critical facilities: The rapid rehabilitation of primary infrastructure such as primary roads, bridges, water supply and sanitation systems, primary power generation and distribution facilities, irrigation and agricultural facilities, health, education and other social facilities, will lead to economic revitalisation of the affected region. The key for an effective rehabilitation programme is an accurate and thorough damage assessment, which will provide the necessary information on why infrastructure was damaged or destroyed and will determine the modality of including risk reduction in rehabilitation and reconstruction.
- Employment and livelihoods: Support agriculture and livestock production, through the provision of seeds, tools, micro-credits and other means; support small business through the provision of credits or other means; support reconstruction of the housing sector using local technologies, construction materials, local know-how, to ensure that construction activities have a direct positive impact upon the local economy; support short-term gender-sensitive alternative employment generation to compensate lost livelihoods in the immediate post-disaster period.
- Housing: Housing rehabilitation/reconstruction is a key element in closing the gap between emergency relief and sustainable recovery. It is a first step toward reactivating the productive economy. Building the capacity of local authorities to promote, supervise and guide planning and construction processes is key for a successful and sustainable reconstruction process. Local authorities should be enabled to set up legislative and regulatory frameworks to promote local initiatives and local involvement in planning and construction issues;
- Resettlement of families: Often in the aftermath of a disaster, experts and government officials promote a safer location for settlement of people at risk. Experience shows, however, that resettlement of populations on new sites presents major challenges and often leads to resettled people returning back to their original sites.

4.6 Recovery: Develop a disaster recovery plan

C. Responsibilities and resources

Who should be involved?

Recovery planning should involve finance, planning, urban, infrastructure line ministries, non-governmental organisations, private construction industry and corporate sectors. It is important that skilled and experienced people in this area form part of the plan development team so that recovery becomes an integrated component of the planning and preparedness process.

What conditions facilitate the task?
The following actions can facilitate the integration of recovery into disaster preparedness activities:

- Accurate risk assessments and development of likely disaster scenarios;
- Participation of authorities from provincial and local levels with executive authority for planning and implementing post disaster recovery and reconstruction plans;
- Focus on the participatory aspect of the planning process more than the resulting plans, as buy-in is necessary in plan implementation;
- Ability to involve finance and budgeting authorities to earmark upfront resources for disaster recovery.

D. Illustrative initiatives [further examples sought]

Organisational patterns of disaster recovery management following two Indian earthquakes
India

A comparison of recovery strategies to two earthquakes in India provide useful lessons. The city of Latur, in the district of Maharashtra, India, experienced an earthquake in September 1993. Following the earthquake, the Government of Maharashtra set up the Maharashtra Emergency Earthquake Rehabilitation Programme (MEERP), which reported to the Chief Minister and Chief Secretary of the Government of Maharashtra and was instrumental in the rapid completion of the earthquake rehabilitation project. However, after the project's completion, MEERP was disbanded and a new disaster management centre created in an existing line department of relief and rehabilitation. Although MEERP developed many disaster mitigation plans for districts, including for Mumbai city, and learned valuable lessons is disaster mitigation, these were not institutionalised. Hence, when Mumbai was flooded in 2004 the level of preparedness and response had not benefitted from the lessons learned by MEERP.

In contrast, when an earthquake hit Gujarat State in 2001, the Gujarat State Disaster Management Authority (GSDMA) was highly effective in the recovery phase. Reasons for GSDMA's success include: (1) it is managed by senior state government officials, (2) it was linked to line departments and had an independent financial and executive authority to disburse funds and to review progress as well as to take corrective policy measures based on field assessments and (3) it is able to use the existing field agencies of the state governments, such as the collectorates, the district councils and the line departments of public works, education, health and water supply to implement programmes. The GSDMA continued after the closure of the Gujarat Project and became the disaster prevention and management organisation of the state on a permanent basis, thus ensuring that lessons learned were institutionalised into states' disaster management plans.

Lessons learned from India include:

1. The importance of following through by applying the lessons from disaster recovery to build more resilient communities and improved patterns of administration;
2. The need to build risk reduction into recovery management;
3. The importance of recovery organisations being fully integrated within the governmental system but with designated authority to act decisively.

Source: Praveen Pardeshi, quoted from: ADRC, UN/ISDR, UNDP, (ed Ian Davis): Learning from Disaster Recovery. (Expected publication of the International Recovery Platform, 2007.)

E. Where to find further guidance [further references and tools sought]

Bhatt, M.R., (2005): Learning from Recovery, Know Risk, United Nations.
DMTP Training Module, (1996): Contingency planning.
ADRC, UN/ISDR, UNDP, (ed. Davis, I.), (2006): International Recovery Platform: Learning from Disaster Recovery. To download a PowerPoint presentation see: http://www.adrc.or.jp/irp/pdf/Prof.%20Davis_Keynote.pdf
IFRC, (2001): World Disaster Report, focusing on recovery.
Twigg, J., (2004): Good Practices Review, Disaster Risk Reduction, Mitigation and Preparedness in Developing and Emergency programming.
The Natural Hazards Center at the University of Colorado, Boulder, USA and the Public Entity Risk Institute (PERI) have revised (in 2006) the 2001 handbook Holistic Disaster Recovery: Ideas for Building Local Sustainability after a Natural Disaster. It discusses incorporation of the principles of sustainability, e.g. environmental quality, economic vitality, quality of life, social equity, citizen participation and disaster resiliency, into recovery processes. See: http://www.riskinstitute.org/
UNDP, Bureau of Crisis Prevention and Recovery (BCPR): Disaster Reduction and Recovery for Sustainable Human Development. To download at: http://www.undp.org/bcpr/disred/documents/publications/corporatereport/overview.pdf
UNDP, Bureau for Crisis Prevention and Recovery-Disaster Reduction Unit (BCPR): Post-Disaster Recovery—Guidelines (Version 1). To download this guideline on early recovery see: http://www.undp.org/bcpr/disred/documents/publications/regions/america/recovery_guidelines_eng.pdf

Chapter 5:

Strengthening disaster preparedness for effective response

Hyogo Framework for Action Priority 5
Strengthen disaster preparedness for effective response at all levels.

Priority 5 of the Hyogo Framework for Action is distinctive because it represents the important linkage between the disaster risk reduction activities elaborated in Priority Actions 1-4 and the operational abilities most often identified with emergency (or disaster) management. The responsibilities outlined in Priority Actions 1-4 are complementary to and often important to emergency management. Each Priority focuses on different needs and constituencies, drawing on different specialist skills and abilities, and addressing different time perspectives ranging from urgency to extended future planning. Priority 5 concerns the operational domain where these respective interests and abilities meet: stakeholders bring together abilities for planning, preparedness, public understanding and communication and contribute their experiences to the broader strategic policies related to disaster and risk management.

Strengthened preparedness for disaster response is concerned with the two main objectives of (1) reducing or avoiding possible damages of potential or impending threats and (2) being ready to assist those who have been adversely affected by a disaster and need help beyond their usual coping mechanisms. Reaching an effective preparedness level, with the ability to define and carry out response plans, requires certain foundations that are addressed in chapters 1-4 of this Guide. Strengthened institutional structure, capacities and approved legislation frameworks including resources allocation (chapter 1) are the basis to define multi-stakeholder preparedness measures and responsibilities. Risk identification including hazard monitoring, vulnerability analysis and early warning systems (chapter 2) provide the tools for preparedness and contingency planning. Public awareness, knowledge development and communication systems (chapter 3) facilitate the understanding and culture to apply preparedness and contingency plans. The identification of additional and underlying risk factors (chapter 4) contributes to refining preparedness and contingency measures and plans.

Implementing Priority 5 requires a common understanding of what constitutes an effective disaster preparedness system—including an understanding of disaster risk factors. A disaster preparedness plan and programme should cover the assessment of existing capacities; the strengthening of management and coordination structures (including agreements with other countries); contingency planning and response readiness, such as evacuation and stand-by arrangements for the provision of essential services and supplies; and the periodic review, rehearsal and modification of the plan. Finally, preparedness for effective response requires the allocation of necessary financial resources, including an emergency fund.

States can undertake a number of tasks to implement Hyogo Framework for Action Priority 5. This chapter recommends the following tasks:

1. Develop a common understanding and activities in support of disaster preparedness;
2. Assess disaster preparedness capacities and mechanisms;
3. Strengthen planning and programming for disaster preparedness.

Progress in implementing the Hyogo Framework for Action Priority 5 may be assessed by using the following indicators:

- Does the national legislative and policy framework require the incorporation of a risk reduction perspective into the design and implementation of emergency, response, recovery and rehabilitation processes?
- Do all organisations, personnel and volunteers possess the mandate, resources and technical capacity to achieve preparedness for effective disaster response?
- Has an assessment of disaster preparedness capacities and mechanisms been undertaken and responsibility for implementation of recommendations assigned and resourced?
- Have preparedness plans and contingency plans for the major risks been prepared and disseminated.

A note on the consultative process for Chapter 5
The chapter was thoroughly discussed with OCHA and also with other parties such as UNICEF during a consultative meeting Disaster Preparedness Guidelines and Indicators for the Hyogo Framework for Action, which was convened by OCHA in Geneva, in November 2006, as part of a parallel process undertaken at the request of the Inter-Agency Standing Committee on humanitarian matters (IASC) to develop guidance for the humanitarian sector on the implementation of the Hyogo Framework for Action.

5.1 Develop a common understanding and activities in support of disaster preparedness

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to develop a common understanding of preparedness by bringing together stakeholders involved in disaster risk reduction and emergency management. The task aims to widen stakeholders' appreciation of all of the features of effective disaster preparedness, including the roles of risk identification.

Why it's important

A common understanding of what constitutes effective preparedness is important because experience has shown that effective disaster response depends on the extent to which diverse actors and entities prepare and operate in a coordinated and timely manner, avoiding gaps, duplications of effort and parallel structures. Different political, cultural and socio-economic environments necessitate different institutional arrangements and coordination mechanisms, but whatever the setting, effective management and coordination requires clarity of functions and authority, a clear division of labour, as well as leadership that inspires and is accountable. This includes coordination between local and central authorities, between internal and external actors and within and between sectors.

An important feature of an effective preparedness system is a strong appreciation of who is vulnerable and why, and of measures that can be taken to strengthen the resilience of disaster-prone communities, including indigenous coping mechanisms. This people-centred approach needs to be sensitive to gender, culture and other context-specific issues that can empower or undermine particular groups and individuals.

Definitions

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.

Relief/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.

Additional or refined definitions are under discussion and are listed here as draft material for the information of readers.

Emergency management: The organisation and management of resources and responsibilities for dealing with all aspects of emergencies, including in particularly preparedness, response and early recovery within a risk reduction context. It involves plans, institutional structures and arrangements established to engage the normal endeavours of government, voluntary and private agencies in a comprehensive and coordinated way to respond to address the full spectrum of emergency needs. This is also known as disaster management.

Disaster preparedness: This involves pre-disaster activities that are undertaken within the context of disaster risk management and are based on sound risk analysis. This includes the development or enhancement of an overall preparedness strategy, policy, institutional and management structure, capabilities and plans that define measures geared to helping at-risk communities safeguard their lives and assets by being alert to hazards and taking appropriate action in the face of an imminent threat or the actual onset of a disaster.

Disaster response plans: Such plans, based on an analysis of needs and capabilities, identify the strategy, principles, policies and activities that will be pursued to address the situation of those who have been adversely affected by a disaster in a manner that facilitates their early and effective recovery. These should include such elements as continuity of government functions, emergency services of relevant response agencies, emergency funding, and public information.

5.1 Develop a common understanding and activities in support of disaster preparedness

The occurrence and the impact of disaster events can also be used to raise awareness of risk. This, in turn, can generate opportunities for increased investment in mitigation and disaster preparedness initiatives. It is important to maximise increased awareness and political support during events, so that recovery programmes include measures to reduce risk factors and improve disaster preparedness, both in the affected areas and elsewhere in the country.

How it relates to other priority tasks

This task can benefit greatly from task 1.1, as multi-stakeholder dialogues can provide opportunities to discuss disaster preparedness. It also relates to task 1.2 as preparedness actors should be included in national platforms for disaster reduction, task 1.3 on developing the institutional framework for disaster risk reduction, and task 1.4 on institutionalising disaster risk reduction and allocating resources. Task 2.2 on risk assessment and task 2.3 on early warning systems are of particularly importance, and task 3.3 on developing training for specific stakeholders is also relevant.

B. How to do it

Recommended steps

In setting up a dialogue between disaster reduction and response managers consider the following steps:

1. Organise the management of this task. See section “Managing the suggested tasks” in the Guide’s introduction;
2. Identify key stakeholders - those who have mandated authority or who otherwise should play a role in the planning, promotion or implementation of risk reduction and disaster response strategies and programmes;
3. Identify existing mechanisms and networks for both risk reduction and disaster response to assess where the dialogue should be best anchored (e.g. a national platform for disaster reduction);
4. Identify one or more leading institutions or “champions”, i.e. influential entities or persons interested in integrating disaster risk reduction and response and willing to lead in making such integration a public priority;
5. Convene interested and affected parties;
6. Agree on shared goal and objectives, scope, agenda, working arrangements and ground rules;
7. Identify priority areas for improved coordination and integration, such as institutional arrangements, linkages and information exchange;
8. Establish joint working groups or committees to work on the identified priorities;
9. Establish a mechanism for overall coordination of the work effort, setting and monitoring of milestones and integration of outputs;
10. Develop an arrangement for sustaining the dialogue on a continuing basis;
11. Set up a system for disseminating discussion results to key officials, participating organisations and the public, as well as for receiving and acting on input from those outside the process.

C. Responsibilities and resources

Who should be involved?

Include disaster reduction managers, such as those working on risk knowledge, awareness raising, early warning, preparedness, and disaster and response managers, such as those involved in developing preparedness and contingency plans at various levels, mobilizing resources and responding to emergencies. The activities proposed in this task can be developed within a larger disaster risk reduction dialogue process (see task 1.1), such as a national platform (see task 1.2).

What conditions facilitate the task?
Conditions that facilitate the task include:

- Political commitment and support of both disaster reduction and disaster response authorities;
- A list of stakeholders important to both disaster risk reduction and response, including their roles and responsibilities;
- A map or matrix of ongoing initiatives, programme and plans for disaster reduction, preparedness and disaster response;
- Capacities and resources to assess, develop or strengthen legislative institutional frameworks;
- Participation of key stakeholders with clear strategy and priorities of action;
- A communications facilitator;
- Background information to prepare the discussion, such as risk assessments; compilation of laws, regulations, policies, strategies, plans, and resources;
- A summary of institutional arrangements for disaster risk reduction and response, land use and urban planning, economic development and environmental protection.

D. Illustrative initiatives [further examples sought]

Community Based Preparedness
West Bengal, India

Although not at a national level, this case demonstrates the benefits of joint study and action by risk reduction and emergency management groups. The community based preparedness project was developed together with the inter-agency group and the Government of West Bengal, India to prepare communities individually and collectively for a flood based disaster, on the basis of flood that devastated the region in 2000. The project was based on the assumption that communities had to live with disasters and no external intervention should change their lifestyles. If they were prepared for a disaster, the responses and preparedness initiated by them would be more effective in reducing losses and damages in the event of a devastating flood.

Using a participatory approach, each community prepared an action plan, including their village's vulnerability map which identified safe places, low risk areas, highly vulnerable areas and the estimated number of families residing in each zone, the number and location of the vulnerable groups/populations such as the aged, disabled, lactating mothers, pregnant women, seriously ill persons and small children. The plan mentioned the key elements at risk such as life, health, property, livestock and livelihood, the resources required/at hand for bringing down the level of risk and key activities that the community would do before, during and after the disaster.

5.1 Develop a common understanding and activities in support of disaster preparedness

The project proved itself very effective, based on a comparison of damages and losses from floods in 2000 and 2004. For example, in the 2000, the village lost over 700 cattle while there was no loss of cattle in 2004; in the 2000 flood, nearly 3000 families had lost/suffered damage to some of their valuable documents while in 2004, none of the families reported any loss or damage to their documents. Another significant achievement was that the village relied primarily on their own itself: each family had stockpiled food for 7 to 10 days to meet its immediate needs. Further, in 2004 there was hardly any disease outbreak. The project benefited the community especially the poor and most vulnerable groups. As a result, local authorities requested to expand this project to other vulnerable areas.

E. Where to find further guidance [further references and tools sought]

Inter-Agency Standing Committee Reference Group on Contingency Planning and Preparedness, (2001): Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance. These guidelines are designed to provide a common inter-agency methodology for contingency planning and to ensure effective response to humanitarian needs at the onset of a crisis. They suggest a six-step planning process, checklist and brainstorming guide among other tools. For further information see: http://www.humanitarianinfo.org/iasc/content/products/docs/IAContingencyPlanGuide.pdf

5.2 Assess disaster preparedness capacities and mechanisms

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to assess current systems and existing resources so as to identify gaps and needs for effective disaster response. The evaluation should consider available resources, existing capacities, operational plans and procedures, as well as communications and coordination systems at every level in order to identify gaps and needs. It should also consider recovery and reconstruction strategies.

Why it's important

A capacity assessment provides the knowledge basis and motivation for making improvements in strengthening disaster preparedness mechanisms. Capacity assessments can reveal hidden assets, resources and skills throughout government agencies and civil society, so that they may be mainstreamed to meet preparedness, response and recovery needs. Major deficiencies can also be uncovered and made known, spurring corrective actions.

How it relates to other priority tasks

This task is closely related to enhancing the dissemination and use of disaster risk reduction information (task 3.4) and developing disaster reduction training for specific groups of stakeholders. It is also related to developing the institutional framework for disaster risk reduction (chapter 1).

Definitions

Capacity: A combination of all the strengths and resources available within a community, society or organisation 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.

Coping capacity: The means by which people or organisations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards.

Source: UN/ISDR Terminology: Basic terms of disaster risk reduction

B. How to do it

Recommended steps

To assess preparedness capacities:

1. Organise the management of this task. See section “Managing the suggested tasks” in the Guide’s introduction;
2. Determine the scope of the assessment (see the proposed question set below);
3. Gather information through research of documentary sources—laws, executive orders, regulations, policies, strategies, plans and a review of institutional arrangements for disaster response and recovery;
4. Conduct interviews of government officials and other key stakeholders including local disaster researchers;
5. Review past disaster experiences and lessons learned as revealed in research studies and reports;
6. Identify strong and weak aspects of existing capacity for management of information, communications, command and control, coordination, delivery of medical and other life-protecting services, etc.;
7. Identify improvements to be made, opportunities for learning and strengthening existing systems and collaboration with international, national and local entities;

5.2 Assess disaster preparedness capacities and mechanisms

8. Prepare a report with specific recommendations to fill the gaps and improve capacities;
9. Disseminate the report widely.

Inventory of preparedness capacities and mechanisms
A pre-requisite to elaborate any preparedness strategy or plan is full knowledge of existing legal and institutional frameworks, organisations, capacities, plans and activities in risk management and disaster management.

Proposed scope of assessment
Assess institutional capacities for preparedness:

- Is there a legal basis that gives authority to organisations to act?
- Is there an institutional mechanism in place within the government for preparedness?
- Does the system in place consider coordination between different administrative levels?
- Is the system sufficiently decentralised? Do local bodies have sufficient autonomy and resources to accomplish their tasks?
- Does the framework ask for national budget allocation? If so, is it permanent or in case of disaster?

Understand risk and hazard monitoring (see chapter 2 for more detail):

- Does a risk analysis profile exist? Does it include hazard maps, vulnerability analysis and impact assessment?
- Are there hazard maps delineated by type of natural threat and/or multi-hazard maps indicating scales, nature, location, intensity and probability of threats?
- Does the risk profile establish the existence and degree of vulnerabilities and level of exposure to specific hazards?
- Is there a scenario analysis for different hazard and vulnerability factors? If so, is it regularly updated?

Information management and communications (see chapter 3 for more detail):

- Does an information management platform or similar exist? Does it include information and mapping on risk identification, monitoring networks, scenario analysis and related warning messages?
- Do regional and local actors have access to the information system? If so, what kind of access (read only or comment)?
- Is a communication network incorporated into the national system and is it related to early warning systems? If so, is it operational and accessible to regional and local actors? What are their responsibilities?
- Does the system provide accurate information from the field to those that need it for both planning purposes and for use in the communication planning?
- Is there a built-in redundancy in case of energy failures and other problems?
- Is there a mechanism to keep political leaders informed and to facilitate official decisions and pronouncements?
- Is a public information and media communication strategy in place, including responsibilities and targeted audiences?
- Are mechanisms in place to provide information bulletins, operational reports and appeals to humanitarian assistance, institutional and private donors and other audiences?

HFA Assess disaster preparedness capacities and mechanisms 5.2

Early warning (see chapter 4 for more detail):

- Does the early warning system link with the response system?
- Do early warning systems exist at national level, regional and local level? How does it operate and does it reach all those potentially affected?
- Does it integrate all relevant actors? Does it consider local and indigenous knowledge?
- Does it encompass the international, regional, national, and local levels?

Awareness raising and knowledge (see chapter 3 for more detail):

- Is knowledge of hazards, risks, preparedness and appropriate responses shared with the population at large (through public information/the education system/special training courses)?
- What kinds of awareness raising activities exist? If so, do they include preparedness aspects?
- Do they include a programme aimed at the education system? If so, does the curricula involve preparedness aspects?
- Do they target the population at large but with specific focus to reach populations living in the most vulnerable regions?

Assess preparedness planning:

- Does a preparedness plan exist? Is it realistic and affordable?
- Were all relevant stakeholders included in the planning process? Are they committed to implement it? Are their roles and responsibilities clearly defined?
- Is it based upon reliable and comprehensive information on hazards, risks, vulnerabilities and capacities?
- Does the plan include implementation mechanisms, clear actions and resource?
- Does it include provisions on how to deal with international assistance?
- To what extent does the plan reflect the fact that men and women are differently affected by disasters?
- Is it regularly reviewed and updated?

Assess stand-by arrangements:

- To what extent are the necessary goods available and accessible? This includes stockpiles of medicine, food, water emergency shelter, body bags and other materials.
- To what extent are the necessary human resources available and accessible including areas such as search and rescue, medical, communication, engineering and nutrition specialists?
- Are enough appropriately skilled personnel readily available?
- Do cadres of volunteers exist across the country? What is their level of skill and commitment? What is the extent of equipment and material resources at their disposal? Are they based on existing community institutions?
- Is there an emergency contingency fund, and is there a rapid procurement process to enable the purchase of fuel and other urgently needed supplies and services? To what extent is disaster relief funding available and accessible?
- How do national stand-by arrangements relate to international ones?

Assess response mechanisms:

- What mechanisms exist? How advanced are they?
- Are these mechanisms familiar to disaster response agencies?
- Are these mechanisms familiar to at-risk populations?
- Do the mechanisms involve institution readiness capacities and activities? If so, please describe.

5.2 Assess disaster preparedness capacities and mechanisms

- Is there a system in place to coordinate with local non-governmental organisations and civil society groups?
- Is there a system in place to coordinate with international response mechanisms (both governmental and non-governmental)?
- Does the response mechanism include:
  - Assessment teams?
  - Evacuation procedures?
  - Search and rescue teams?
  - Establishment of an Operations/Command Centre?
  - Procedures for activating emergency lifeline facilities (hospitals, distribution systems, communication facilities)?
  - Preparations for emergency reception centres and shelters?
  - Procedures for activating emergency programmes for airports, harbours, and land transport?
  - Public information and media communication strategy?

C. Responsibilities and resources

Who should be involved?

The assessment process should include representatives of all governmental and non-governmental agencies and organisations with a role in disaster preparedness, from disaster risk reduction and disaster response.

What conditions facilitate the task?
The conditions and resources that facilitate the task include:

- Executive and organisational support for the assessment;
- Human and financial resources for the assessment;
- A multi-organisational team;
- Commitment to a participatory self-assessment process;
- Access to emergency plans and procedures, resource and equipment inventories, training records, etc.;
- Review of past disaster experiences and lessons learned in research studies and reports.

D. Illustrative initiatives [further examples sought]

Assessing National Disaster Response Capacity
Mongolia

The Government of Mongolia requested assistance in conducting an assessment of its national capacity to respond to disasters. OCHA mobilised a United Nations Disaster Assessment and Coordination (UNDAC) team for this purpose in July 2004. The UNDAC team met with all stakeholders engaged in disaster preparedness including the National Disaster Management Agency, all Ministries involved in disaster response, Ulaanbataar and Aimag capital city authorities, disaster protection special units, fire fighting units, State Reserve branches, Police, Urban Development and Public Utility Agency, Nuclear and Energy Commission, local authorities, donors, international agencies, non-governmental organisations and the International Federation for the Red Cross and Red Crescent as well as the Mongolian Red Cross. The findings of the assessment, which comprised a broad set of recommendations, were presented to the Disaster Management State Services and to the UN Resident Coordinator. A follow-up mission was carried out in October 2005 to take stock of progress on the recommendations, to identify

impediments to implementation and to prioritise outstanding issues. This second mission also considered the UN's engagement in disaster management including support to Mongolia in networking with international structures. It was found that since June 2004 all parties involved in implementing the UNDAC recommendations had made important progress.

The assessment report became an important political instrument in the discussion on how to organise the national emergency authority and was mentioned as a good example of good UN practices. All concerned were determined to ensure recognition of the newly formed National Emergency Management Authority (NEMA) as the key national entity responsible for disaster management and coordination. The International Federation of the Red Cross and Red Crescent Societies has also used the report as a tool to systematically review its own action plan and prioritisation for Mongolia.

The assessment allowed for the identification of issues requiring improvement such as collaboration between NEMA and international organisations, development of a forum for regular information sharing, budgetary constraints, as well as training and equipment requirements.

Reference: OCHA-FCSS/UNDAC Team, Mission to Mongolia, Assessment of National Disaster Response Capacity, 27 June – 9 July 2004

E. Where to find further guidance [further references and tools sought]

ALALNAP and ProVention Consortium, (2005): South Asia Earthquake 2005: Learning from previous earthquake relief operations. For further information visit: www.alnap.org or www.proventionconsortium.org

APELL - Awareness and Preparedness for Emergencies at the Local Level, is a modular, flexible methodological tool that aims to assist decision-makers and technical personnel to increase community awareness and to prepare coordinated response plans involving industry, government, and the local community. The APELL Handbook, launched in 1988, sets out a ten-step process for the development of an integrated and functional emergency response plan involving local communities, governments, emergency responders and others. This process creates awareness of hazards in communities close to industrial facilities, encourages risk reduction and mitigation and develops preparedness for emergency response. For further information see: www.unep.fr/pc/apell/process/natural.html)

Asian Disaster Preparedness Center (ADPC) in Bangkok offers numerous courses in disaster management planning and related activities, for example its Disaster Management Course. For further information see www.adpc.net.

RADIUS - Risk Assessment Tools for Diagnosis of Urban Areas against Seismic Disasters - is a computer software launched by the UN/ISDR - International Strategy for Disaster Reduction in 1996 to promote worldwide activities for reduction of seismic disasters in urban areas, particularly in developing countries. The software offers practical tools for earthquake damage estimation. For further information see: www.unep.fr/pc/apell/tools/home.html

Telford, J., Cosgrove, J., Houghton, R., (2004): Joint evaluation of the international response to the Indian Ocean tsunami: synthesis report. Tsunami Evaluation Coalition, July 2004,176pp. A synthesis of five detailed reports by the multi-stakeholder Tsunami Evaluation Coalition covering humanitarian coordination, needs assessment, impacts on local and national capacities, funding processes, and links from relief, rehabilitation and development. See www.alnap.org and www.tsunami-evaluation.org

The World Bank Institute has a Disaster Risk Management On-line Program consisting of five courses offered in English, French and Spanish and including Comprehensive Disaster Risk Management Framework, Safe Cities, Damage and Reconstruction Needs Assessment and, in cooperation with the Environmental Planning Collaborative, Community Based Disaster Risk Management and Financial Strategies for Managing the Economic Impacts of Natural Disasters. For further information see: www.worldbank.org

5.3 Strengthen planning and programming for disaster preparedness

A. Understanding the task

What's the purpose of this task?

The purpose of this task is to guide those responsible for disaster management planning toward the necessary tools and processes for developing plans (and supporting programmes), as part of a holistic approach to disaster risk management. This includes the improvement of existing plans for disaster response/contingency, recovery and reconstruction.

Why it's important

Systematic planning involving all relevant actors is the foundation to effective disaster preparedness. Disaster preparedness and contingency plans, based on sound preparedness planning, are critical to building a state of readiness and to effective response at times of crisis. Good planning has proven its value in safeguarding lives and livelihoods. Conversely, poorly developed preparedness plans and programmes can cause considerable problems in the event of a disaster.

The ultimate objective of the planning process is not simply to produce a plan but to stimulate on-going interactions between parties that result in common understanding and agreement and plans that are well-informed, widely endorsed and will be used with confidence in real events. Usable a good plan will make its purpose and scope clear, will define responsibilities and will establish standard operating procedures for particular circumstances.

As part of the preparedness planning process, the assignment of responsibilities should be formalised in legislation, edicts and/or national development plans. Once plans are developed, organisations can support the plan through staff training on specific functions, and can test plans and procedures through drills and exercises. Effective plans cover management of information, resources and finances; public education; response readiness, alert/evacuation systems; among other.

The aim of contingency planning is to ensure adequate preparation for specific foreseen events. Contingency plans are usually embedded in an overall preparedness plan, and address and respond to specific events or scenarios such as earthquakes, landslides, floods, epidemics, environmental, disasters hurricanes, food shortages, etc. It is necessary to develop contingency plans for each type of hazard likely to be experienced at not only local and

Definitions

Disaster contingency planning: A process that results in an organised, planned and coordinated course of action to be followed in case of an accident or disaster that threatens society or the environment. Such plans clearly identify the institutional and organizational arrangements that come into play in the event of a disaster that disrupts the usual coping mechanisms of at-risk communities and societies.

Disaster preparedness plans: A document containing programmes and specific projects aimed at ensuring a high level of readiness of emergency services so that when a disaster occurs, response is timely, well coordinated and effective. Plans normally identify the role and responsibility of different government and other actors, the training and maintenance of emergency services, the development and maintenance of early warning systems, public awareness and education programmes, organization of emergency shelters and evacuation plans, the stockpiling of supplies and equipment, and other response capabilities including clearly defined coordination mechanisms.

Evacuation: The temporary relocation of people and assets from a place of danger to a place of relative safety in the face of an imminent threat.

Source: These additional or refined definitions are under discussion and are listed here as draft material for the information of readers.

5.3 Strengthen planning and programming for disaster preparedness

national levels, but also at regional and global levels. The plans cover operational components such as policies, objectives, procedures and responsibilities, and resources required to respond

How it relates to other priority tasks

This task is closely related to that of developing a plan for recovery (see task 4.6) and it relies on risk information such as that developed in a countrywide risk assessment initiative (see task 2.2). The task of preparedness planning is underpinned by effective institutional framework for disaster risk reduction (see chapter 1).

B. How to do it

Recommended steps
The following process steps relate to preparedness for effective response and recovery:

1. Form a planning committee that includes policy and technical staff of agencies and organisations and representatives of the business sector and the public and establish the scope, responsibilities and a timetable for the planning process;
2. Select an agency to lead the plan development, ensure its adoption and monitor its implementation;
3. Collect available documentation regarding hazards, vulnerability of critical facilities, lifelines and the building stock, resource inventories, hazard maps, disaster scenarios and existing policies, plans and Standard Operating Procedures. Assess the hazards and activities, institutions and structures most at risk from those hazards and their vulnerability. For recovery planning, also collect physical and economic development and redevelopment plans and documentation. Review assessments of resources and capabilities (see task 5.2) available to respond and recover from disasters;
4. Analyse risk and capacity assessments to determine needs and priorities for plans for various kinds of disaster events, including for mitigation measures that should be built into recovery and reconstruction;
5. Identify lead agencies for responding to various types of disasters and assign roles. Create systems for communicating situation information, needs and orders to and from those in charge;
6. Determine who would be in charge of recovery and reconstruction and whether it would be managed through a an existing or new organisation;
7. Establish linkages and mechanisms for coordination between agencies, levels of government and with the private sector and the public;
8. Create and test systems for developing immediate and ongoing situation and damage assessments and estimation of needs;
9. Establish standard operating procedures, field manuals, checklists, contact lists, resource inventories, etc.;
10. Draft a plan for response and recovery and consult with government departments, interested organisations, businesses and the public. Establish a mechanism for receiving reviews and addressing concerns;
11. Make necessary changes, publish and arrange for adoption and signing of the plan by representatives of all affected organisations;
12. Widely disseminate and publicise the major tenets of the plan;
13. Establish processes for regular monitoring and follow up, testing, exercising and revising the plan in accordance with changing circumstances and requirements.

HFA Strengthen planning and programming for disaster preparedness **5.3**

An effective disaster preparedness plan contains the following elements:

1. Clear description of the relevant legislative frameworks and institutional "architecture", with mandates, responsibilities, protocols, linkages and coordination structure between different actors both horizontally (between different sectors) and vertically (between national, sub-national and local entities and authorities).
2. Risk analysis profiles including natural hazard identification, monitoring and vulnerability analysis and a sound understanding of risk (see task 2.2 on establishing countrywide risk assessment initiative).
3. Mechanisms for dissemination of early warnings (see task 2.4 on the communication and dissemination mechanisms for early warning)
4. Stand-by arrangements, including:
   - Essential goods and services, such as medicine, food, water, emergency shelter, body bags, fuel and other materials;
   - Human resources including search and rescue, medical, communication, engineering and nutrition specialists.
5. Disaster contingency/response plans (see box below), including:
   - Operations/command centre; Search and rescue teams;
   - Procedures for activating emergency lifeline facilities (hospitals, distribution systems, communication facilities);
   - Evacuation procedures; preparations for emergency reception centres and shelters;
   - Procedures for activating emergency programmes for airports, harbours and land transport.
6. Public information and media communication strategy, including:
   - Clear responsibilities for the strategy's implementation;
   - A system to provide current information quickly to media services that includes trained professionals;
   - Accurate information from the field to those that need it for both planning purposes and for use in the communication plan;
   - Mechanisms to meet information needs of senior decision makers, institutional and private donors and other target audiences as required.
7. Preparedness capacity development (see task 3.3 on developing disaster risk reduction training for specific groups of stakeholders), including:
   - Comprehensive training programmes based on ongoing assessment of current capacities;
   - Cadres of volunteers with equipment and material resources at their disposal.

Elements of contingency planning:

1. Ensure that data and information used in the formulation of contingency plans is accurate and dependable;
2. Undertake scenario planning based on likely hazard events and the damages and losses to be caused by these, given the vulnerability of local communities and infrastructure and services;
3. Analyse the scenario in order to list the actions to be undertaken such as the pre-positioning of resources within sectors likely to be impacted, local communities and providing contingency budgets for associated government departments;
4. Arrange for finance and planning departments to provide general contingency resources to undertake recovery efforts for such scenarios;
5. Involve recovery managers from previous disasters in pre-planning exercises in order to assist in applying lessons from the past;
6. Ensure that plans clearly identify roles and responsibilities, decision-making processes, available resources, and the specific steps that must be taken in the event of an emergency to enable all involved to respond according to established procedures;
7. Provide training as needed for implementation of contingency plans and ensure that plans are written clearly so that they can be understood by staff at all levels;
8. Arrange for periodic review, based on monitoring and evaluation, as well as rehearsal and testing;
9. Ensure that the plan is sensitive to local politics and cultural sensitivities, the needs of women and the most vulnerable populations, as well as the environmental impact of emergency measures.

5.3 Strengthen planning and programming for disaster preparedness

C. Responsibilities and resources

Who should be involved?

Principal government ministries or departments responsible for planning and public safety (e.g. interior, civil defence, development, planning, economy, environment, sciences and technology), as well as from development sectors (health, education, natural resources etc.) national and local disaster management agencies or systems; national institutes and local related offices (hydro-meteorological, geological survey, monitoring centres, academia and research institutions), civil society, non-government organisations; international and UN agencies.

What conditions facilitate the task?

- The support of political leaders and policy makers, along with executive and organisational support and associated human and financial resources.
- Existing clarity of functions and authority and division of responsibilities among the key organisations.
- Mechanisms for good coordination between local and central authorities, between internal and external actors and within and between sectors.
- An understanding of the capabilities and resources of all public and private organisations that may contribute to the execution of a plan.
- The participation of local and municipal governments and representatives of communities.
- A strong sense of ownership of the planning process by those responsible for executing the plans.

D. Illustrative initiatives [further examples sought]

Sector preparedness
Colombia and Ecuador

Developing a Health Training Program to Prepare for Volcanic Eruptions in Colombia and Ecuador was identified as an European Commission's humanitarian aid department (ECHO) - ISDR good practice for resilient communities. This DIsaster Preparedness ECHO (DIPECHO) project was executed by the Pan American Health Organization/World Health Organization to reinforce the coping capacity of the health sector at national, sub-national and municipal levels in preparation for responding to volcanic eruptions. It involved the development and dissemination of training materials on health preparedness, a train-the-trainers programme for health professionals and training of members of existing disaster response teams. While both countries already had health emergency plans for disasters, post-disaster evaluations indicated the need for health staff to work with updated technical instruments and tools and for lessons learned to be integrated into the existing health system. The project also encouraged the exchange of experiences and knowledge between communities in both countries. In addition to development of technical guides, workshops and training, another highlight is design and development of a special module for decision-making, using a multi-media modelling tool with a volcanic eruption emergency scenario.

For further information: Visit the WCDR website at: www.unisdr.org/wcdr/public-forum/good-practices.htm or UN/ISDR Informs, Disaster Reduction in Latin America and the Caribbean, Issue 12, 2006, p. 57.

Community-based preparedness
India

Samiyarpettai and Pudupettai are two villages on the south coast of Tamil Nadu in India and both are almost identical in size and development levels. However, during the 26 December 2004 Indian Ocean Tsunami, Pudupettai lost four times more lives (death toll 95) than Samiyarpettai (death toll 24) (UNDP/BCPR, 2005). There was one significant difference between these villages: a couple of months before the Tsunami struck, Samiyarpettai had taken part in preparedness training and awareness raising programmes that were designed to build community capacity through the extensive involvement and participation of volunteers. The programme was sponsored by the Government of India, the United Nations Development Programme (UNDP) and the United Nations Volunteer Programme (UNV). Samiyarpettai, in Cuddalore district, had been chosen by the District Collector Gagandeep Singh Bedi as a model village for the programme as it was prone to floods, droughts and earthquakes. The training and initiatives at the village level included the constitution of Village Disaster Committees, the elaboration of Village Disaster Management Plans, training of teams on search and rescue and first aid, conducting mock drills, teaching villagers about higher safe spots and on how to prevent drowning using empty barrels and banana stems. This basic training turned out to be essential to survive the 2004 tsunami for many villagers.

Reference: UNDP/BCPR, 2005, United Nations in India - 14.04.2005 Community-based Preparedness - Foundation for Disaster Management: http://www.undp.org/bcpr/disred/documents/tsunami/undp/pr140405.pdf

E. Where to find further guidance [further references and tools sought]

CAMEO—Computer-Aided Management of Emergency Operations is a system of software applications used widely to plan for and respond to chemical emergencies. It is one of the tools developed by the Environmental Protection Agency's Chemical Emergency Preparedness and Prevention Office and the National Oceanic and Atmospheric Administration to assist front-line chemical emergency planners and responders. CAMEO can be used to access, store and evaluate information critical for developing emergency plans. The CAMEO system integrates a chemical database and a method to manage the data, an air dispersion model and a mapping capability. All modules work interactively to share and display critical information in a timely fashion. (APELL tools website, www.unep.fr/pc/apell/tools/home.html).

Disaster Management Training Programme, (1996): Contingency planning, Disaster Management Training Programme training module.

IFRC (2006): Guide for Developing Response and Contingency Plans for Latin America and the Caribbean.

Inter-Agency Standing Committee Reference Group on Contingency Planning and Preparedness, (2001): Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance. Designed to provide a common inter-agency methodology for contingency planning and to ensure effective response to humanitarian needs at the onset of a crisis, the Guidelines suggest a six-step planning process, checklist and brainstorming guide among other tools. For further information see: http://www.humanitarianinfo.org/iasc/content/products/docs/IAContingencyPlanGuide.pdf

Natural Disasters Organisation, (1992): Australian Emergency Manual: Community Emergency Planning Guide. 2nd Edition.

UNEP/OCHA Environmental Unit: Guidelines for the Development of a National Environmental Contingency Plan.

U.S. Federal Emergency Management Agency (FEMA), various planning guides such as Guide for All-Hazard Emergency Operations Planning and other documents available through its publications centre or on its website at: http://www.fema.gov.

Annex 1:

References

ADRC, UN/ISDR, UNDP, (ed. Davis, I.), (2006): International Recovery Platform: Learning from Disaster Recovery. To download a PowerPoint presentation see: http://www.adrc.or.jp/irp/pdf/Prof.%20Davis_Keynote.pdf

Asian Development Bank, (2005): Climate Proofing: A Risk-Based Approach to Adaptation. Manila.

Asian Development Bank, African Union, New Partnership for Africa's Development, UN/ISDR, (2004): Guidelines for mainstreaming disaster risk assessment in development.

Alesch, D.J., Petak, W.J., (2001): Overcoming Obstacles to Implementing Earthquake Hazard Mitigation Policies: Stage 1 Report, Technical Report MCEER-01-0004. Multidisciplinary Center for Earthquake Engineering Research.

ALNAP and ProVention Consortium, (2005): South Asia Earthquake 2005: Learning from previous earthquake relief operations. For further information visit: www.alnap.org or www.proventionconsortium.org

Andean Community: Andean Strategy for the Prevention and Attention to Disasters (Estrategia Andina para la Prevención y Atención de Desastres, EAPAD). To download at: www.comunidadandina.org/normativa/dec/d591.htm

Asian Disaster Preparedness Center and the Office of Foreign Disaster Assistance of the U.S. Agency for International Development, (2005): A Primer: Disaster Risk Management in Asia, Chapter 5 Mitigation Planning and Implementation.

Bachmann, H., (2002): Seismic Conceptual Design of Buildings—Basic principles for engineers, architects, building owners, and authorities. Swiss Federal Office for Water and Geology, Swiss Agency for Development and Cooperation.

Basher, R., (2006): Global early warning systems for natural hazards: systematic and people-centred. Philosophical Transactions of the Royal Society. To download at: http://www.unisdr.org/ppew/info-resources/docs/RSTA20061819p.pdf

Benson, C., Clay, E., (2002): Bangladesh: Disasters and Public Finance. Disaster Risk Management Working Paper Series No. 6. World Bank.

Benson, C., Twigg, J., (2004): Measuring Mitigation: Methodologies for Addressing Natural Hazard Risks and the Net Benefit of Mitigation – A Scoping Study. ProVention Consortium.

Benson, C., Twigg, J. (expected in Jan. 2007): Chapter 3: Guidelines on mainstreaming disaster risk reduction into Poverty Reduction Strategy Papers. International Federation of Red Cross and Red Crescent societies / ProVention Consortium publication.

Bhatt, M.R., (1999): Mapping Vulnerability – Participatory Tool Kits. Natural Disaster Management, Jon Ingleton, (editor), Tudor Rose, pp. 94-5.

Bhatt, M.R., (2005): Learning from Recovery, Know Risk. United Nations.

Briceno, S., (2003): The International Strategy for Disaster Reduction and Sustainable Development: Public awareness, education and capacity building for the future. UN/ISDR.

Bothara, J.K., Guragain, R., Dixit, A., (2002): National Society for Earthquake Technology-Nepal, Protection of Educational Buildings Against Earthquake Brochure.

Chakrabarti, D., Bhat, M.R., (2006): Micro-Finance and Disaster Risk Reduction. Proceedings of International Workshop on Disaster Risk Mitigation: Potential of Micro-Finance for Tsunami Recovery, New Delhi, 2005. National Institute of Disaster Management, New Delhi.

Committee, under the chairmanship of Louis Solway, (1995): Megacities: Reducing vulnerability to natural disasters. Thomas Telford, ISBN 0 7277 2068 6.
Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India, (2001): High Powered Committee on Disaster Management Report: Building a Culture of Prevention.
Disaster Management and Training Programme, (1996): Contingency planning, DMTP training module.
Earthquakes and Megacities Initiative (EMI) and Pacific Disaster Center (PDC), Cross-Cutting Capacity Development (3cd) Program. For further information see: www.pdc.org/emi
Froot, K. (ed.), (1999): The Financing of Catastrophe Risk. University of Chicago Press. Chicago.
Gibbs, T. (2003): Design Manual for Health Service Facilities in the Caribbean with Particular Reference to Natural Hazards and Other Low Frequency Events. ISBN 976-8080-558.
Guha-Sapir, Dabarati, R. Below, (2002): The Quality and Accuracy of Disaster Data: A Comparative Analysis of Three Global Data Sets, University of Louvain School of Medicine.
Gulkan, P., (2000): What Emerged from the Rubble. To download at: http://www.chinaenvironment.net/pace/articles/more.php?id=38_0_2_0
Inter-Agency Standing Committee (2004): IASC In-country team self-assessment tool for natural disaster response preparedness.
Intergovernmental Panel on Climate Change, (2001): Third Assessment Report. To download at: www.ipcc.int
International Federation of Red Cross and Red Crescent Societies, (2005): Guidelines for emergency assessment.
International Federation of Red Cross and Red Crescent Societies, (2005): How to conduct a food security assessment, a step-by-step guide for National Societies in Africa.
International Federation of Red Cross and Red Crescent Societies (2004): World Disasters Report 2004.
International Federation of Red Cross and Red Crescent Societies, (2003): Well-prepared National Societies Self Assessment.
International Federation of Red Cross and Red Crescent Societies, (2001): Improving Basic Training Skills. To download at: http://www.ifrc.org/what/disasters/dp/manual.asp
International Federation of Red Cross and Red Crescent Societies, (2001): World Disaster Report, focusing on recovery.
International Federation of Red Cross and Red Crescent Societies: Guidelines for Vulnerability and Capacity Assessment. To download at: http://www.ifrc.org/what/disasters/dp/planning/vcaguidelines.asp
International Monetary Fund, (2006): Poverty Reduction Strategy Papers (PRSP). To download at: http://www.imf.org/external/np/prsp/prsp.asp
ISDR system Thematic Cluster/Platform on Knowledge and Education, prepared by Ben Wisner, (2006): Let Our Children Teach Us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction. To download from the UN/ISDR website at: http://www.unisdr.org/eng/task%20force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf
ITDG, Pakistan, (2002): Disaster Communication: A resource Kit for Media.
Kent, R., (1994): Disaster preparedness. Disaster Management and Training Programme (DMTP) training module.
Key, D., (ed.), (1995): Structures to withstand disasters. Bristol University, Thomas Telford, ISBN 0 7277 2067 8.
Kreimer, A., and Arnold, M., (2000): Managing Risk in Emerging Economies. World Bank.
Kreimer, A., Arnold, M., Carlin, A., (2003): Building Safer Cities – The Future of Disaster Risk. Disaster Risk Management Working Paper Series No. 3. World Bank. 324 pp. To download at: http://www.proventionconsortium.org/themes/default/pdfs/Safer_Cities.pdf
Mattingly, S., Bendimerad, F., Fernandez, J., (2005): Disaster Risk Management Master Plan (DRMMP) Concept Paper, A Working Draft Product of the Cross-Cutting Capacity Development (3cd) Program, 30 November 2005 version. To download at: www.pdc.org/emi.
Miamidian, E., Arnold, M., Burritt, K., Jacquand, M., (2005): Surviving Disasters and Support8ing Recovery: A Guidebook for Microfinances Institutions. Disaster Risk Management Working Paper Series No. 10. World Bank.
Mileti, D., (1999): Disasters by Design A Reassessment of Natural Hazards in the United States. Joseph Henry Press.
Mitchell, J.K., (1999): Crucibles of Hazards: Mega-cities and disasters in transition. United Nations University Press. 535 pp. ISBN: 92-808-0987-3.
Natural Disasters Organisation, (1992): Australian Emergency Manual: Community Emergency Planning Guide, 2nd Edition, Section 8.08, Natural Disasters Organisation. To download at: http://www.csu.edu.au/faculty/health/aemf/EMPlanning/PLANNING.doc
Natural Hazards Center at the University of Colorado, Boulder, USA and the Public Entity Risk Institute (PERI) revised (in 2006) the 2001 handbook Holistic Disaster Recovery: Ideas for Building Local Sustainability after a Natural Disaster.

To download at: http://www.riskinstitute.org/
OCHA, (2002): United Nations Disaster Assessment and Coordination, Field Handbook.
Pantoja, E., (2002): Microfinance and Disaster Risk Management: Experience and Lessons Learned. The World Bank, Washington D.C.
Perez, F.Y.L., (2005): Survival Tactics of Indigenous People. To download at: http://academic.evergreen.edu/g/grossmaz/LEEPERFY/
ProVention Consortium, (2004): Lessons Learned from the Applied Research Grant, Global Symposium for Hazard Risk Reduction. To download at: www.proventionconsortium.org
ProVention Consortium: Community Risk Assessment Toolkit. To download at: www.proventionconsortium.org/CRA_toolkit.htm.
ProVention Consortium (2007): Guidelines on mainstreaming disaster risk reduction into Poverty Reduction Strategy Papers. Tools for Mainstreaming Disaster Risk, Guidance Note 3. Geneva: ProVention Consortium/International Federation of Red Cross and Red Crescent Societies
Ribot, J.C., (2004): Waiting for Democracy: The politics of choice in natural resource decentralisation, World Resources Institute.
Swiss Agency for Development and Cooperation, (2006): Mitigation, response and recovery, SDC Davos 2006.
Telford, J., Cosgrove, J., Houghton, R., (2004): Joint evaluation of the international response to the Indian Ocean tsunami: synthesis report. Tsunami Evaluation Coalition, July 2004,176pp.
Twigg, J., (2004): Disaster Risk Reduction, Mitigation and Preparedness in Developing and Emergency programming. Good Practices Review 9, Humanitarian Practice Network/ODI.
UN Special Envoy for Tsunami Recovery President Bill Clinton, (2005): Transcript of Remarks to UN Economic and Social Council (ECOSOC), Humanitarian Segment, Panel "Lessons Learned From the Response to the Indian Ocean" July 14th 2005, United Nations, New York.
UNDP, Bureau of Crisis Prevention and Recovery (BCPR): Disaster Reduction and Recovery for Sustainable Human Development. To download at: http://www.undp.org/bcpr/disred/documents/publications/corporatereport/overview.pdf
UNDP, Bureau for Crisis Prevention and Recovery-Disaster Reduction Unit (BCPR): Post-Disaster Recovery—Guidelines (Version 1). To download at: http://www.undp.org/bcpr/disred/documents/publications/regions/america/recovery_guidelines_eng.pdf
UNDP/BCPR, Provention Consortium Secretariat, UN-HABITAT, UNV, UN/ISDR, (2005): Governance: Institutional and policy frameworks for risk reduction. Thematic Discussion Paper Cluster 1. To download at: http://www.unisdr.org/wcdr/thematic-sessions/WCDR-discussion-paper-cluster1.pdf
UNDP, UN/ISDR, (2006): Integrating Disaster Risk Reduction into CCA and UNDAF Guidelines. To download at: http://www.unisdr.org/eng/risk-reduction/sustainable-development/cca-undaf/cca-undaf.htm
UNDP, (2004): Reducing Disaster Risk: A Challenge for Development. To download at: http://www.undp.org/bcpr/whats_new/rdr_english.pdf
UNDP, (2004): UNDP Support to Institutional and Legislative Systems fro Disaster Risk Management. To download at: http://www.undp.org/bcpr/disred/documents/publications/casestudy/ils.pdf
UNDP, A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management. To download at: http://www.undp.org/bcpr/disred/documents/wedo/ils/ils_esummary.pdf
UNDP, Human Development Reports. To download at: http://hdr.undp.org/reports/
UNEP, (2002): Global Environment Outlook 3 (GEO-3). 416 pp. To download at: http://www.grida.no/geo/geo3/english/index.htm
UNEP, (2004): Africa Environment Outlook, Case Studies: Human Vulnerability to Environmental Change. 188 pp. ISBN 92-807-2365-0.
UNEP, OCHA Environment Unit, (2005): Guidelines for the development of a national environment contingency plan.
UNESCO, (2005): Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability.
UN/ISDR, (2004): Living with Risk: a global review of disaster reduction initiatives. To download at: http://www.unisdr.org/eng/hfa/hfa.htm
UN/ISDR, (2005): Invest to prevent disasters. Prepared for the International Day for Disaster Reduction 2005. To download at: http://www.unisdr.org/eng/public_aware/world_camp/2005/2005-iddr.htm
UN/ISDR, (2005): Proceedings of the World Conference on Disaster Reduction. To download at: http://www.unisdr.org/wcdr
UN/ISDR, (2006): Field Library for Disaster Reduction. Catalogue.
UN/ISDR, (2006): Global Survey of Early Warning Systems: An assessment of capacities, gaps and opportunities toward

building a comprehensive global early warning system for all natural hazards. To download at: http://www.unisdr.org/ppew/info-resources/ewc3/Global-Survey-of-Early-Warning-Systems.pdf
UN/ISDR, (2006): Guiding Principles: National Platforms for Disaster Risk Reduction. To download at: www.unisdr.org/eng/country-inform/ci-guiding-princip-p.htm
UN/ISDR, (2006): Key Checklist for Early Warning Systems. To download at: http://www.unisdr.org/ppew/
UN/ISDR, (2005): UN Sasakawa Award for Disaster Reduction: http://www.unisdr.org/eng/sasakawa/2005/sk-2005-descripction-eng.htm
UN/ISDR, Platform for the Promotion of Early Warning (PPEW), German Committee for Disaster Reduction (DKKV), (2006): Early Warning – From concept to action, The Conclusions of the Third International Conference on Early Warning.
UN/ISDR: Terminology: Basic terms of disaster risk reduction. To download at: http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm
United Nations Disaster Relief Organization, (1984): Preparedness aspects: a compendium of current knowledge.
United States Agency for International Development (USAID) developed a four-page, to-the-point booklet with useful tips on conducting a participatory evaluation. To download at: http://www.usaid.gov.
Villagran de León, J. C., Bogardi, J. (UNU-EHS), Dannenmann, S., Basher, R. (UN/ISDR PPEW), (2006): Early Warning Systems in the context of Disaster Risk Management. Entwicklung & Ländlicher Raum, 2/2006. 23-25 pp.
Wisner, B., (2003): At Risk: Natural Hazards, People's Vulnerability and Disasters.
Witte, J.M., and Reinicke, W., Global Public Policy Institute, (2005): Business UNusual Facilitating United Nations Reform Through Partnerships. Commissioned by the United Nations Global Compact Office, Published by the United Nations Global Compact Office. United Nations publication. ISBN 92-1-100980-4. To download at: http://www.globalpublicpolicy.net/businessUNusual/down/files/Report_in_full.pdf
Zschau, J., Küppers, A.N., (2003): Early Warning Systems for Natural Disaster Reduction. ISBN 3-540-67962-6 Springer Verlag Berlin Heidelberg New York.

Annex 2:

Questions useful as indicators for the Hyogo Framework for Action Priority 1-5

1. Making disaster risk reduction a priority

- Is a multi-sectoral disaster risk reduction platform operational?
- Does a disaster risk reduction legal framework (constitution, laws, and governmental system) exist?
- Does a national disaster risk reduction policy framework (policies, strategies and plans) exist?
- Are dedicated resources available for disaster risk reduction either as a separate budget line item or integrated in sector budgets?

2. Identifying, assessing and monitoring risk and enhancing early warning

- Is there a strategy for data provision for disaster risk reduction?
- Is there a risk assessment or risk map available at country and community level? Does it identify both hazards and vulnerabilities and are risks identified by sector?
- Are people-centred early warning systems in place for the country's major hazards?
- Does the system reach the most vulnerable and cover the full territory?
- When warnings are issued, do people know what to do? Do people have an access to safer places?

3. Building a culture of resilience to disasters through awareness, education and training

- Is there a countrywide public awareness strategy for disaster risk reduction?
- Do curricula of schools and higher-education institutes include disaster risk reduction?

4. Reducing risk in key sectors

- Do the country's natural resource policies facilitate risk reduction? Do environmental and risk reduction managers and policy makers collaborate?
- Do national development plans, Poverty Reduction Strategy Papers and Common Country Assessment-United Nations Development Assistance Framework include disaster risk reduction?
- Are risk reduction parameters used to guide land-use development planning (e.g. for the protection of critical facilities and to avoid settlement in high-risk areas in slums)?
- What percentage of health facilities and schools are conform to hazard-resistant standards?
- Is disaster risk reduction incorporated in recovery planning?
- Do national Millennium Development Goal report include elements of disaster risk reduction?

5. Strengthening disaster preparedness for effective response

- Does the national legislative and policy framework require the incorporation of a risk reduction perspective into the design and implementation of emergency, response, recovery and rehabilitation processes?
- Do all organisations, personnel and volunteers possess the mandate, resources and technical capacity to achieve preparedness for effective disaster response?
- Has an assessment of disaster preparedness capacities and mechanisms been undertaken and responsibility for implementation of recommendations assigned and resourced?
- Have preparedness plans and contingency plans for the major risks been prepared and disseminated.

Annex 3:

Definitions

Building codes: Ordinances and regulations controlling the design, construction, materials, alteration and occupancy of any structure to insure human safety and welfare. Building codes include both technical and functional standards. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Capacity building: Efforts aimed to develop human skills or societal infrastructure within a community or organisation needed to reduce the level of risk. Capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Capacity: A combination of all the strengths and resources available within a community, society or organisation 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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Coping capacity: The means by which people or organisations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Critical facilities/emergency services: Those facilities (such as hospitals, power stations, lifelines) and services (such as Police, Fire Service, Ambulance, Red Cross/Crescent, voluntary agencies) that have certain specific responsibilities and objectives in serving and protecting people and property in any disaster situation. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Disaster contingency planning: A process that results in an organised, planned and coordinated course of action to be followed in case of an accident or disaster that threatens society or the environment. Such plans clearly identify the institutional and organizational arrangements that come into play in the event of a disaster that disrupts the usual coping mechanisms of at-risk communities and societies. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Disaster contingency planning: A process that results in an organised, planned and coordinated course of action to be followed in case of an accident or disaster that threatens society or the environment. Such plans clearly identify the institutional and organisational arrangements that come into play in the event of a disaster that disrupts the usual coping mechanisms of at-risk communities and societies. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Disaster preparedness: This involves pre-disaster activities that are undertaken within the context of disaster risk management and are based on sound risk analysis. This includes the development/enhancement of an overall

preparedness strategy, policy, institutional and management structure, capabilities and plans that define measures geared to helping at-risk communities safeguard their lives and assets by being alert to hazards and taking appropriate action in the face of an imminent threat or the actual onset of a disaster. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Disaster preparedness plans: A document containing programmes and specific projects aimed at ensuring a high level of readiness of emergency services so that when a disaster occurs, response is timely, well coordinated and effective. Plans normally identify the role and responsibility of different government and other actors, the training and maintenance of emergency services, the development and maintenance of early warning systems, public awareness and education programmes, organization of emergency shelters and evacuation plans, the stockpiling of supplies and equipment, and other response capabilities including clearly defined coordination mechanisms. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Disaster response plans: Such plans, based on an analysis of needs and capabilities, identify the strategy, principles, policies and activities that will be pursued to address the situation of those who have been adversely affected by a disaster in a manner that facilitates their early and effective recovery. These should include such elements as continuity of government functions, emergency services of relevant response agencies, emergency funding, and public information. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Disaster risk management: The systematic process of using administrative decisions, organistion, 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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Disaster risk reduction: The conceptual framework of elements considered with the possibilities to minimise 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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Early warning system: 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. Early warning systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population and undertaking appropriate and timely actions in response to the warnings. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Ecosystem: A complex set of relationships of living organisms functioning as a unit and interacting with their physical environment. The boundaries of what could be called an ecosystem are somewhat arbitrary, depending on the focus of interest or study. Thus the extent of an ecosystem may range from very small spatial scales to, ultimately, the entire Earth (IPCC, 2001, as cited in UN/ISDR Terminology of disaster risk reduction). *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Emergency management: The organisation and management of resources and responsibilities for dealing with all aspects of emergencies, including in particularly preparedness, response and early recovery within a risk reduction context. It involves plans, institutional structures and arrangements established to engage the normal endeavours of government, voluntary and private agencies in a comprehensive and coordinated way to respond to address the full spectrum of emergency needs. This is also known as disaster management. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Environmental degradation: The reduction of the capacity of the environment to meet social and ecological objectives and needs. Potential effects are varied and may contribute to an increase in vulnerability and the frequency and intensity of natural hazards. Some examples: land degradation, deforestation, desertification, wildland fires, loss of biodiversity,

land, water and air pollution, climate change, sea-level rise and ozone depletion. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Environmental impact assessment: Studies undertaken in order to assess the effect on a specified environment of the introduction of any new factor, which may upset the current ecological balance. EIA is a policy making tool that serves to provide evidence and analysis of environmental impacts of activities from conception to decision-making. It is utilised extensively in national programming and for international development assistance projects. An EIA must include a detailed risk assessment and provide alternatives solutions or options. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Evacuation: The temporary relocation of people and assets from a place of danger to a place of relative safety in the face of an imminent threat. *Source: Definition under discussion and listed here as draft material for the information of readers.*

Exposure: Elements at risk, such as people and property. *Source: Adapted from UNDP BCPR, Reducing Disaster Risk: A Challenge for Development, 2005*

Hazard analysis: Identification, studies and monitoring of any hazard to determine its potential, origin, characteristics and behaviour. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Land-use planning: Branch of physical and socio-economic planning that determines the means and assesses the values or limitations of various options in which land is to be utilised, with the corresponding effects on different segments of the population or interests of a community taken into account in resulting decisions. Land-use planning involves studies and mapping, analysis of environmental and hazard data, formulation of alternative land-use decisions and design of a long-range plan for different geographical and administrative scales. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Microfinance and microcredit: 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. *Source: http://www.microcreditsummit.org/Aboutmicrocredit.htm*

National platform for disaster risk reduction: Nationally owned and led arrangement in the form of a forum or committee of multiple stakeholders, which serves as an advocate of disaster risk reduction at different levels, provides analysis and advice on areas of priority requiring concerted action through a coordinated and participatory process. *Source: UN/ISDR, Guiding Principles for National Platforms for Disaster Risk Reduction*

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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Public awareness: The processes of informing the general population, increasing levels of consciousness about risks and how people can act to reduce their exposure to hazards. This is particularly important for public officials in fulfilling their responsibilities to save lives and property in the event of a disaster. Public awareness activities foster changes in behaviour leading towards a culture of risk reduction. This involves public information, dissemination, education, radio or television broadcasts, use of printed media, as well as, the establishment of information centres and networks and community and participation actions. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Public-private partnership: A voluntary association of both state and non-state actors or organisational entities typically drawn from government, business, professional and/or academic institutions and other elements of civil society to address commonly held objectives through shared resources, skills and abilities. Partnerships typically involve some form

of joint decision-making and sharing of responsibilities, opportunities and risks in recognition that the combined value of their respective attributes provide greater potential for accomplishment than would be possible through individual efforts. *Source: developed for this Guide*

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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Relief/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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Resilience: The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Retrofitting: Reinforcement of structures to become more resistant and resilient to the forces of natural hazards. Retrofitting involves consideration of changes in the mass, stiffness, damping, load path and ductility of materials, as well as radical changes such as the introduction of energy absorbing dampers and base isolation systems. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Risk assessment and analysis: A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend. The process of conducting a risk assessment is based on a review of both the technical features of hazards such as their location, intensity, frequency and probability; and also the analysis of the physical, social, economic and environmental dimensions of vulnerability and exposure, while taking particular account of the coping capabilities pertinent to the risk scenarios. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Vulnerability and capacity assessment: A basic process used to identify the strengths and weaknesses of households, communities, institutions and nations, developed by the International Federation of the Red Cross and Red Crescent Societies. *Source: IFRC, Guidelines for Vulnerability and Capacity Assessment (VCA)*

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. *Source: UN/ISDR Terminology: Basic terms of disaster risk reduction*

Annex 4:

- Summary of the Hyogo Framework for Action
- Framework for Disaster Risk Reduction

United Nations
International Strategy for Disaster Reduction

SUMMARY of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters

Expected outcome, strategic goals and priorities for action 2005-2015

Expected Outcome
The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries

Strategic Goals

- The integration of disaster risk reduction into sustainable development policies and planning
- Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards
- The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes

Priorities for Action

Key Activities

1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation	**2.** Identify, assess and monitor disaster risks and enhance early warning	**3.** Use knowledge, innovation and education to build a culture of safety and resilience at all levels	**4.** Reduce the underlying risk factors	**5.** Strengthen disaster preparedness for effective response at all levels
• DRR institutional mechanisms (national platforms); designated responsibilities • DRR part of development policies and planning, sector wise and multisector • Legislation to support DRR • Decentralisation of responsibilities and resources • Assessment of human resources and capacities • Foster political commitment • Community participation	• Risk assessments and maps, multi-risk: elaboration and dissemination • Indicators on DRR and vulnerability • Data & statistical loss information • Early warning: people centered; information systems; public policy • Scientific and technological development; data sharing, space-based earth observation, climate modeling and forecasting; early warning • Regional and emerging risks	• Information sharing and cooperation; • Networks across disciplines and regions; dialogue • Use of standard DRR terminology • Inclusion of DRR into school curricula, formal and informal education • Training and learning on DRR: community level, local authorities, targeted sectors; equal access • Research capacity: multi-risk; socio-economic; application • Public awareness and media	• Sustainable ecosystems and environmental management • DRR strategies integrated with climate change adaptation • Food security for resilience • DRR integrated into health sector and safe hospitals • Protection of critical public facilities • Recovery schemes and social safety- nets • Vulnerability reduction with diversified income options • Financial risk-sharing mechanisms • Public-private partnership • Land use planning and building codes • Rural development plans and DRR	• Disaster management capacities: policy, technical and institutional capacities • Dialogue, coordination & information exchange between disaster managers and development sectors • Regional approaches to disaster response, with risk reduction focus • Review & and exercise preparedness and contingency plans • Emergency funds • Voluntarism & participation

Cross Cutting Issues

- Multi-hazard approach
- Gender perspective and cultural diversity
- Community and volunteers participation
- Capacity building & technology transfer

Contributing to the achievements of the internationally agreed development goals (including the MDGs)

DRR= disaster risk reduction

Continued

SUMMARY of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters

Implementation and Follow-Up

In order to achieve the goals and act upon the priorities identified in this Framework, the following tasks have been identified to ensure implementation and follow-up by States, regional and international organizations in collaboration with civil society and other stakeholders. The ISDR partners, in particular the Inter-agency Task Force on Disaster Reduction and secretariat, are requested to assist in implementing this Framework for Action.

General Considerations

Implementation by different stakeholders, multi-sectoral approach; participation of civil society (NGOs, CBOs, volunteers), scientific community & private sector is vital

States primarily responsible; an enabling international environment is vital, incl. strengthened regional capacities

Build multi-stakeholder partnerships

Particular attention to:
- Small island developing States: Mauritius Strategy;
- Least developed countries;
- Africa

States, regional and international organizations to foster coordination among themselves and a strengthened International Strategy for Disaster Reduction (ISDR)

Follow-up integrated with other major conferences in fields relevant to DRR; reviews as appropriate

Actors

Critical tasks

States

- Designate national coordination mechanisms for the implementation and follow up, communicate to the ISDR secretariat;
- National baseline assessments of the status of DRR;
- Publish and update a summary of national programme for DRR including international cooperation;
- Develop procedure for reviewing national progress including systems for cost benefit analysis and ongoing monitoring on risk;
- Consider acceding to, approving or ratifying relevant international legal instruments and to make sure they are implemented;
- Promote the integration of DRR with climate variability and climate change into DRR strategies and adaptation to climate change; ensure management of risks to geological hazards.

Regional Organizations and Institutions

- Promote regional programmes including for technical cooperation, capacity development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources;
- Undertake and publish regional and sub-regional baseline assessments;
- Coordinate and publish reviews on progress and support needs, and assists countries in preparation of national summaries;
- Establish specialized regional collaborative centers;
- Support the development of regional mechanisms and capacities for early warning, including for tsunami

International Organizations (including UN System and IFIs)

- Engage in the implementation of the ISDR by encouraging integration of DRR into humanitarian and sustainable development fields;
- Strengthen the capacity of the UN system to assist disaster-prone developing countries in DRR and implement measures for assessment of progress;
- Identify actions to assist disaster-prone developing countries in the implementation of the Hyogo Framework, ensure their integration and that adequate funding is allocated; assist in setting up national strategies and programmes for DRR;
- Integrate actions into relevant coordination mechanisms (UNDG, IASC, RCs and UN Country Teams);
- Integrate DRR into development assistance frameworks such as CCA/UNDAF, PRSP;
- In collaboration with networks and platform support: data collection and forecasting on natural hazards and risks; early warning systems; full & open exchange of data;
- Support States with coordinated international relief assistance, to reduce vulnerability & increase capacities;
- Strengthen international mechanisms to support disaster stricken States in post-disaster recovery with DRR approach
- Adapt & strengthen inter-agency disaster management training for DRR and capacity building.

ISDR (Inter-Agency Task Force on Disaster Reduction & secretariat)

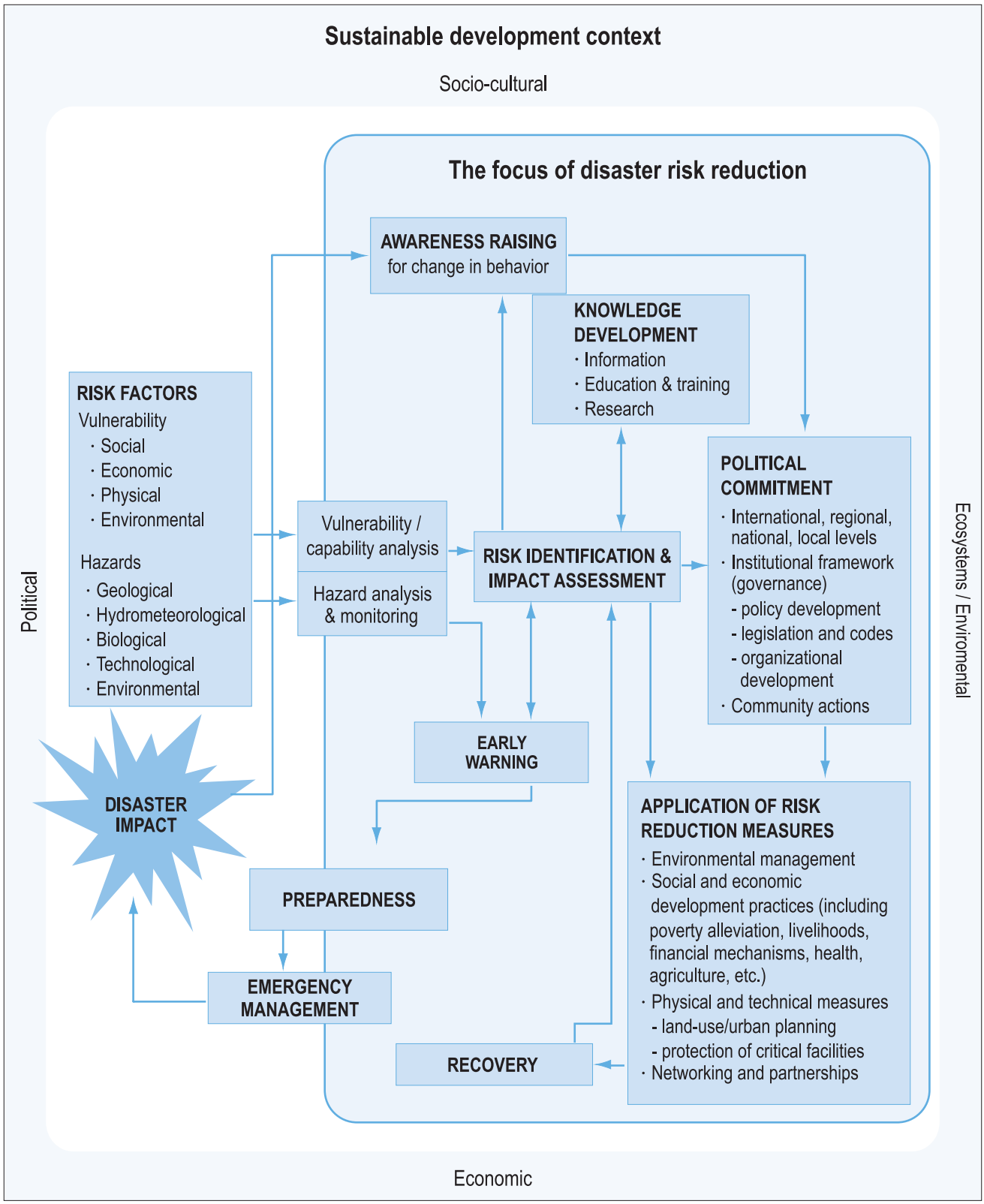
- Develop a matrix of roles and initiatives in support of follow/up to the Hyogo Framework;
- Facilitate the coordination of effective actions within the UN system and other international and regional entities to support the implementation of the Hyogo Framework, identify gaps, facilitate processes to develop guidelines and policy tools for each priority area;
- In broad consultation, develop generic, realistic and measurable indicators. These indicators could assist States in measuring progress in the implementation of the Hyogo Framework;
- Support national platforms & regional coordination;
- Register relevant partnerships with Commission on Sustainable Development;
- Stimulate the exchange, compilation, analysis and dissemination of best practices, lessons learnt;
- Prepare periodic review on progress towards achieving the objectives of the Hyogo Framework and provide reports to the UNGA & other UN bodies

Resource Mobilization: States, Regional and International Organizations

- Mobilize resources and capabilities of relevant national, regional and international bodies, including the UN system;
- Provide and support the implementation of the HFA in disaster prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer, public-private partnership and North-South and South-South cooperation;
- Mainstream DRR measures into multilateral and bilateral development assistance programmes;
- Provide adequate voluntary financial contribution to the UN Trust Fund for DR to support follow-up activities to Hyogo Framework; review usage and feasibility for the expansion of this fund;
- Develop partnership to implement schemes that spread out risks, reduce insurance premiums, expand insurance coverage and increase financing for post-disaster reconstruction, including through public and private partnerships. Promote an environment that encourages a culture of insurance in developing countries.

Source: Outcome of the World Conference on Disaster Reduction, Hyogo, Kobe Japan, 18-22 Jan 2005

Framework for Disaster Risk Reduction



Source: UN-ISDR UN/ISDR, (2004): Living with Risk.
This figure describes the general context and primary activities of disaster risk management, including the elements necessary for any comprehensive disaster risk reduction strategy.

United Nations
International Strategy for Disaster Reduction

Secretariat Geneva
Tel. :(+41 22) 917 8908/8907
Fax : (+41 22) 917 8964
isdr@un.org
www.unisdr.org

International Environment House II
7-9 Chemin de Balexert
CH 1219 Châtelaine
Geneva, Switzerland

Postal Address:
Palais des Nations, CH-1211
Geneva, Switzerland

Secretariat Africa, Nairobi
Tel.: +254 20 762 4568
+254 20 762 4101
Fax: +254 20 762 4726
isdr-africa@unep.org
www.unisdr.org/africa
United Nations Complex
Block T Room 328, Gigiri
PO Box 47074
Nairobi, Kenya

Secretariat Asia and the Pacific, Bangkok
Tel.: +66 (0)2 288 2745
Fax: +66 (0)2 288 1050
isdr-bkk@un.org
www.unisdr.org/asiapacific
c/o UNESCAP
UN Conference Centre Building
Rajdamnern Nok Avenue
Bangkok 10200
Thailand

Secretariat Central Asia, Dushanbe
Tel.: +992 372 21 77 17
Fax: +992 372 51 00 21
tine.ramstad@undp.org
www.unisdr.org/asiapacific
39 Aini Street
734024 Dushanbe
Tajikistan

Secretariat Latin America and the Caribbean, Panama
Tel.: +507 317 1124
Fax: +507 317 0600
eird@eird.org
www.eird.org
Casa 843 A y B
Avenida Arnoldo Cano Arosemena
Campus de la Ciudad del Saber
Corregimiento de Ancón Panamá
PO BOX 0816-02862, Panama City
Panama

Platform for the Promotion of Early Warning (PPEW), Bonn
Tel.: +49 228 815 0300
Fax: +49 228 815 0399
isdr-ppew@un.org
www.unisdr-earlywarning.org
Hermann-Ehlers-Strasse 10
D-53113 Bonn
Germany

UN/ISDR-02-2007-Geneva