

DISASTER RISK MANAGEMENT SYSTEMS ANALYSIS

A guide book



**INSTITUTIONS FOR DISASTER
RISK MANAGEMENT**

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SYSTEMS ANALYSIS**

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FOREWORD

With mounting international concern at the rising frequency and severity of natural hazards and disasters, in part due to factors related to climate change, there is increased impetus in many countries to put in place policy, legal, technical, financial and institutional measures that will reduce the destructive effects on the lives and livelihoods of individuals and communities. These concerns were intensively debated during the World Conference on Disaster Reduction, held in Kobe, Hyogo Prefecture, Japan, 18-22 January 2005. The Hyogo Framework for Action (HFA), adopted by the Conference, seeks the outcome of “The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries”. In order to achieve the stated outcome by 2015, the HFA emphasises a shift from reactive emergency relief (which nonetheless remains important) to pro-active disaster risk reduction (DRR) in the pre-disaster stages by strengthening prevention, mitigation and preparedness. A related approach that is gaining widespread support is that of disaster risk management (DRM) which combines, through a management perspective, the concept of prevention, mitigation and preparedness with response.

The effective implementation of both DRR and DRM systems is contingent on sound institutional capacities by key actors at different levels of government, the private sector and civil society as well as effective coordination between these actors and levels. These challenges were given emphatic recognition by the HFA’s second strategic goal: “the development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards”.

More recently, in the context of increasing climate variability and climate change, there is increasing recognition for the benefits from closely linking Disaster Risk Management and Climate Change Adaptation efforts at different scales. The workshop on “Climate Related Risks and Extreme Events” held in June 2007 in Cairo by the United Nations Framework Convention on Climate Change (UNFCCC) in the context of the Nairobi Work Programme (NWP) on impacts, vulnerability and adaptation to climate change recognised this crucial link. It recommended, inter alia, to identify and promote institutional mechanisms and processes for better coordinated actions related to climate risk and impact management, including those related to extreme events (DRR).

FAO’s field experiences with DRM, supported by normative studies, revealed that there are few practical tools available to guide the analysis of national, district and local institutional systems for DRM and to conceptualize and provide demand-responsive capacity-building thereafter. The lack of tools to understand institutional responses and coordination mechanisms is of particular concern. This Guide attempts to fill this gap by providing a set of tools that have been developed and tested in various FAO field projects for DRM.

The methods and tools proposed in this guide are generic, and can be adapted to different types of natural hazards, sectoral issues, geographical areas, country-specific conditions and institutional settings. However, in view of FAO’s mandate and experience, some practical illustrations are given of the application of these tools to the agricultural sector in developing countries. In order to strengthen FAO’s assistance to governments and other concerned organizations in undertaking diagnostic assessments of DRM institutional systems as a first step in a capacity-building process, we would welcome feedback on this Guide from readers and users with a view to improving future versions.

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The Guide draws heavily on the field experience of FAO in developing and strengthening the institutional capacities of DRM systems in a number of Asian and Caribbean countries. Illustrations of participatory rural appraisal exercises used during field assessments of community-level DRM systems in several countries enrich the text with the experiences of many rural people who are highly vulnerable to natural hazard risk.

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ACRONYMS

AEZ	Agro-Ecological Zone
CCA	Common Country Assessment
CREG	Centre for Research on the Epidemiology of Disasters
CBDRM	Community-Based Disaster Risk Management
CBO	Community-Based Organization
CIG	Common Interest Groups
CSO	Civil Society Organization
DCP	District Contingency Plans
DRM	Disaster Risk Management
DRMC	Disaster Risk Management Cycle
DRMF	Disaster Risk Management Framework
DRR	Disaster Risk Reduction
EWS	Early Warning Systems
FAO	Food and Agriculture Organization of the United Nations
FEWSNET	Famine Early Warning System (FEWS) Network
FPMIS	Field Project Management Information System
GIEWS	Global Information and Early Warning System
HFA	Hyogo Framework for Action
IFRC	International Federation of Red Cross and Red Crescent Societies
INGO	International non-Governmental Organisations
MFIS	Micro-Financing Organisations
MoU	Memorandum of Understanding
NDMA	National Disaster Management Agency
NDMB	National Disaster Management Bureau
NDMC	National Disaster Management Centre
NDMO	National Disaster Management Office
NGO	Non-Governmental Organization
NHMS	National Hydro-Meteorological Services
NMA _s	National Meteorological Agencies
NWP	Nairobi Work Programme on impacts, vulnerability and adaptation
PRA	Participatory Rural Appraisal
SDAR	Rural Institutions and Participation Services
SLAF	Sustainable Livelihoods Analytical Framework
UAS	User's Association
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Framework Convention for Climate Change
UN/ISDR	United Nations International Strategy for Disaster Reduction
VDC	Village Development Committee
WCDR	World Conference on Disaster Reduction
WFP	World Food Programme

INTRODUCTION

Background

The world has witnessed an alarming increase in the frequency and severity of disasters: 240 million people, on average, were affected by natural disasters world-wide each year between 2000 and 2005. During each of these six years, these disasters claimed an average of 80,000 lives and caused damage of an estimated US\$ 80 billion.¹ Disaster losses are rising throughout the world due to a number of factors that include:

- more frequent extreme weather events associated with increasing climate variability and change;
- agricultural production systems that increase risk (e.g. heavy reliance on irrigated crops resulting in aquifer depletion and salinization, or unsustainable pasture/livestock or bio-fuel production on land that was formerly and more appropriately covered in forest);
- population growth combined with demographic change and movements leading, for instance, to unplanned urbanization, growing demand for food, industrial goods and services; and
- increasing pressure on (and over-exploitation of) natural resources.

Higher living standards and more extravagant life styles in the more prosperous nations also result in very high economic losses when disasters strike. While better emergency response systems will save lives and properties, many of these losses can be avoided – or reduced – if appropriate policies and programmes are instituted to address the root causes and set in place mitigation, preparedness and response mechanisms that are effectively integrated into overall development planning.

These issues were called into public scrutiny and exhaustively debated during the World Conference on Disaster Reduction (WCDR) in Kobe, Hyogo, Japan (January 2005). Governments, UN agencies and Civil Society Organizations (CSOs) present in Kobe insisted on the need to move from theory to concrete action in disaster risk reduction. Strongly endorsing the Conference's recommendations, the UN General Assembly Resolution RES-59-212 (March 2005) on "International Cooperation on Humanitarian Assistance in the Field of Natural Disasters, from Relief to Development" called upon all States to implement the Hyogo Framework for Action (HFA), and requested the international community to continue assisting developing countries in their efforts to adopt appropriate measures to mitigate the effects of natural disasters, and to integrate disaster risk reduction (DRR) strategies into development planning. This represents a paradigm shift from a heavy preoccupation with reactive emergency relief (which nonetheless remains important) to pro-active DRR *before* a hazard can turn into a disaster.

The second of the three strategic goals of the HFA is "the development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards".² A particular challenge in meeting this objective is to acquire a sound understanding of existing institutional capacities, possible gaps and the comparative strengths of different actors at different levels as a basis for mobilizing the

¹ CRED. March 2007. The data source - EM-DAT, does not include victims of conflict, epidemics and insect infestations. For more on disaster statistics and issues relating to disaster data: www.em-dat.net

² The other strategic goals are: (a) The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction; and (c) the systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

participation of local organizations, together with higher level institutions, in the design and implementation of locally relevant DRR strategies.

In order to build institutions that are better prepared for, resilient to and able to cope with hazards, it is useful to enrich the concept and practice of disaster risk reduction (DRR) used in the HFA which focuses on *pre-disaster stages* (prevention, mitigation and preparedness) by placing them within the broader concept and practice of *disaster risk management* (DRM) which combines (through a *management perspective*) prevention, mitigation and preparedness with response.³

Recent studies⁴ and projects of FAO show that in spite of the considerable documentation available on DRM, there are few practical tools to guide the analysis of national, district and local institutions and systems for DRM, and to conceptualize and provide demand-responsive capacity-building thereafter. The lack of tools to analyse the institutional capacities of community-based organizations to participate effectively in the design and implementation of local DRM strategies as well as in the continuous management of hazard threats and/or disaster situations before, during and after their occurrence is of particular concern. To address this gap, in 2003 FAO launched a programme focusing on the role of local institutions in natural disaster risk management. The programme combines and mutually reinforces normative and operational, field-based activities to assist countries in their efforts to shift from reactive emergency relief operations towards better planned, long-term disaster risk prevention and preparedness strategies including, where appropriate, their integration into on-going agricultural development work. The approach is premised on (i) a sound understanding of existing institutional capacities, possible gaps and the comparative strengths of different actors in DRM at different levels, and (ii) effective coordination between key stakeholders in the design and implementation of demand-responsive projects and programmes that address, in a sustainable way, the root causes of vulnerability of local stakeholders to natural hazards. FAO's key entry points build on the following closely inter-connected questions:

- (i) what institutional structures, mechanisms and processes are driving national DRM programmes in the agriculture, forestry and fisheries sectors?
- (ii) what technical capacities, tools, methods and approaches are available within existing institutional structures to operationalize DRM at national and local levels (that is, assessing comparative strengths as to *who* could do *what* best)?
- (iii) what existing good practices (of either indigenous and/or scientific origin) are actually applied at local level to strengthen community resilience against climatic and other natural hazards, and what are the potential technology gaps (including access to technologies) at local level?

Purpose and scope of the Guide

This Guide provides a set of tools to assess existing structures and capacities of national, district and local institutions with responsibilities for DRM in order to improve the effectiveness of DRM systems and the integration of DRM concerns into development planning, with particular reference to disaster-prone areas and vulnerable sectors and population groups. The strategic use of the Guide is expected to enhance understanding of the strengths, weaknesses, opportunities and threats facing existing DRM institutional structures and their implications for on-going institutional change processes. It will also highlight the complex institutional linkages among various actors and sectors at different levels. Finally, it will help identify gaps within the existing DRM institutions and/or

³ Definitions of DRR and DRM are given in Module 1.

⁴ FAO. 2004. *The role of local institutions in reducing vulnerability to recurrent natural disasters and in sustainable livelihoods development*. Consolidated report on case studies and workshop findings and recommendations. Rural Institutions and Participation Service (SDAR). Rome.

systems including sectoral line agencies that are often responsible for implementing the technical aspects of DRM (e.g. agriculture, water and health sectors).⁵

The assessment and analysis process outlined in the Guide is thus a first step towards strengthening existing DRM systems. The major areas of application are:

- Strengthening institutional and technical capacities for DRM at national and/or decentralized levels;
- Integrating key aspects of DRM in emergency rehabilitation programmes;
- Designing and promoting Community-Based Disaster Risk Management (CBDRM);
- Operationalizing the paradigm shift from reactive emergency relief to pro-active DRM; and
- Mainstreaming DRM into development and sectoral planning (e.g. agriculture).

The Guide focuses on risks associated with natural hazards of hydro-meteorological (floods, tropical storms, droughts) and geological (earthquake, tsunami, volcanic activity) origin. Users interested in the management of other types of hazard risk are encouraged to adapt the general concepts, tools and methods to their own situations.

Target/user group for the Guide

The target/user group includes technical staff of: national and local government departments/agencies, multi- and bi-lateral development agencies, NGOs/CSOs/CBOs, and national and international DRM practitioners engaged in designing and/or evaluating national and/or decentralized DRM systems in specific countries/regions. Investment project formulation missions concerned to include institutional aspects in national risk profiling are also likely to find the Guide useful. While the Guide briefly covers definitions and concepts of DRM, sustainable livelihoods and DRM institutional systems, users with some prior knowledge of these concepts and practical experience in working with DRM institutional systems in developing countries are likely to find the Guide more meaningful.

How to use the Guide

The modular form of the Guide covers the sequential steps to undertake a comprehensive institutional assessment of DRM systems across administrative levels and sectors. If, however, the assessment has a predefined sector- or hazard-specific focus, DRM practitioners as well as other interested development professionals including NGO/CSO/CBO staff, disaster managers and policy makers, may prefer to select certain modules only and/or adjust the tools and checklists to sector- or hazard-specific issues.

⁵ In this context, DRM institutional systems are understood as the combination of institutional structures, practices and processes (*who does what and how?*).