4 ASSESSMENT OF DISASTER RISK MANAGEMENT SYSTEMS AT THE DISTRICT LEVEL

WHAT IS THE ROLE OF DISTRICT-LEVEL DRM INSTITUTIONS?

District-level[22] institutions play a major role in coordinating and mediating actions between the national and local levels. In addition to their responsibilities for local administration, these institutions generally implement disaster mitigation, preparedness, response, recovery and livelihood development programmes and projects, some of which may be planned and supervised by national institutions. In particular, district-level DRM institutions are often responsible for preparing risk maps and vulnerability profiles, developing and implementing contingency plans, supplying essential inputs, proposing and supporting livelihood diversification, disseminating early warning messages, preparing immediate needs assessments and providing relief.

WHY DO INSTITUTIONAL ASSESSMENTS AT THE DISTRICT LEVEL?

The purpose of an institutional assessment at the district level is to:
- identify the strengths and weaknesses of the intermediary-level institutions within the country's DRM system, with particular attention to the effective design and implementation of locally relevant DRM practices;
- identify specific gaps in institutional structures, roles and capacities in order to design measures to strengthen the existing DRM system at the provincial/district/municipality level, improve linkages with vulnerable sectors (e.g. agriculture, water resources and health), and reinforce vertical and horizontal coordination among different actors;
- analyse the different (and sometimes conflicting) interests and perceptions regarding DRM of all players, including government officials, politicians, elected council representatives, traditional leaders, private sector entrepreneurs, NGOs and civil society organizations; and
- identify the tangible institutional attributes (policies, organizational mandates and structures), supporting instruments (such as finance, logistical support and technologies) and intangible attributes (attitudes, perceptions and underlying motivating factors) that determine the success of DRM programmes at district level.

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22 The term "district" is used to refer to the operationally most important (from a local perspective) intermediary institutional layer between the national and local levels. Most often this is the "district" level. However, depending on the specific country context, it may also be the "province", "state", or "municipality". In countries with separate state or provincial governments, methods discussed in module 3 for the national-level assessment may also be applicable.

HOW TO INITIATE THE ASSESSMENT?

The assessment process at the district level should start by deciding on whom to contact. The indicative contacts for collecting relevant information are:

- Representatives of the district focal point agency for DRM and members of the district and sub-district DRM committees;
- District-level sectoral department heads and/or their representatives (e.g. agriculture, water resources, health, education and public works departments);
- Representatives of district-level extension, research and training institutions;
- Professional staff in relevant district-level development projects;
- Representatives of NGOs and CSOs;
- District-level representatives of producer organizations, cooperatives and financial institutions; and
- Private sector produce traders, input suppliers, media and transporters.

The following steps may be useful in assessing provincial-, district- or municipal-level DRM institutions (Box 4.1). Since there is usually a wide range of stakeholders involved in DRM at

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BOX 4.1 **STEPS FOR CONDUCTING DATA COLLECTION AT THE DISTRICT LEVEL**

Announce your mission in time including a request for a stakeholder meeting early on. Upon arrival make an initial courtesy visit to the head of the local DRM focal point agency to provide a short briefing and invite the agency's assistance.

- Hold a group meeting with key stakeholders to (i) obtain their support and commitment; (ii) identify the key elements of the district-level DRM strategy; and (iii) agree on the main issues to be addressed at the district level.
- Building on the outcome of this meeting, prepare check lists of questions and tools applicable to the different district-level institutions, using as resource materials the questions/issues given in Tables 4.1 and 4.2. Sector-specific questions should also be prepared as appropriate (see, for example, the questions related to the agricultural sector given in Box 4.2). Conduct a series of interviews/group meetings with selected stakeholders using these questions and tools.
- If major issues of concern or controversy emerge during this process, the assessment team will need to call and moderate a technical meeting with the interested and concerned parties in order to seek clarifications of facts and the rationales of the various standpoints.
- Before holding a final stakeholder wrap-up meeting (i) prepare a summary chart of the different organizations involved in DRM at the district level, indicating briefly their different mandates, roles and responsibilities and the nature of the coordinating mechanism; and (ii) a visual presentation that summarizes the study's findings regarding the strengths and weaknesses of the existing institutional systems, including coordinating mechanisms, available resources, staffing levels and expertise, and opportunities for improvement.

Present your draft findings for review and comments at a wrap-up meeting with key stakeholders to gain verification or correction of your interim findings and conclusions.

the district level, a series of well prepared semi-structured interviews with either groups or representatives of different stakeholder agencies is an effective way of capturing in depth and possibly diverse opinions and insights. An important aim of the analysis is to compare the perspectives of the different stakeholders. The organizational steps proposed in Box 4.1 are only indicative and may need to be adapted to different situations.

SPECIFIC ISSUES TO ADDRESS AT THE DISTRICT LEVEL

(a) Understanding the district hazard and vulnerability profile. This would include a clear understanding of the types of hazards and disasters undermining development and livelihood security, and the frequency and seasonality of occurrence. District risk and vulnerability maps as well as Agro-Ecological Zone (AEZ) maps or seasonal hazard calendars, if available, are ideal tools for this purpose. It is also crucial to understand the predominant socio-economic patterns, natural resource endowments, livelihood activities and the location and risk profiles of the most vulnerable groups (or sectors), and to link this information to the hazard exposure maps. The criteria used for defining hazard risks and vulnerability at district level will need to take into account the socio-economic and institutional factors increasing vulnerability to hazards. Information about the impacts of past disasters, responses taken and lessons learned is equally important.

(b) Analysing the institutional set-up, its effectiveness and the horizontal/vertical coordination mechanisms for DRM. The team members need to understand precisely who the key actors are for DRM at the district level. They also need to know which technologies, tools and methods, rules and regulations (decrees, standards, laws and standing orders) and human resources are available for risk and vulnerability analysis, risk prevention and impact mitigation, early warning, contingency planning, risk management planning and emergency response. It is imperative to understand if and how the responsibilities for all these tasks are shared and coordinated both horizontally and vertically. An assessment of the district-level financial mechanisms and budget levels for DRM is also crucial.

(c) Assessing the mechanisms for reaching vulnerable communities and households and the linkages to the community and the national levels. As the district serves as an intermediary between the national and community levels, it is important to assess the effectiveness and appropriateness of its roles and responsibilities in this regard. Key issues to check include, for instance, the existence of specific modalities, guidelines, norms and policies at the district level to translate national DRM policies into district-specific plans or strategies. The quality of plans and strategies developed at the district level could be a good indicator of district-level technical capacities. The district-level knowledge of the vulnerability characteristics of the different socio-economic categories of the population in the district, and existing plans or mechanisms to assist them, are also valid indicators of a responsible district-level role in DRM. The existence of district policies to promote Community-based Disaster Risk Management (CBDRM) could also serve as an indicator of the effectiveness of the district in fulfilling its intermediary role. Finally, it is crucial to understand which functions the district-level agencies and organizations actually fulfil and what resources and equipment are available

for them in emergency situations either to act as intermediaries between the national- and local-level DRM mechanisms or even to play the coordinating role.

KEEPING TRACK OF THE INFORMATION AS
THE ASSESSMENT PROCEEDS

Table 4.2, which serves as an aide-mémoire for monitoring outcomes and findings from the brainstorming sessions, group discussions and interviews, and identifying gaps for future exploration and analysis, should be filled in at the end of the district-level assessment. Together with the similar tables filled out after completing the national- and community-level assessments (see modules 3 and 5), the Table will provide valuable inputs to the overall analysis and formulation of recommendations (see module 6).

TABLE 4.1

Selected key questions for district officials, NGOs, CSOs/CBOs, local leaders and the private sector

District officials	NGOs and civil society organizations (CSO)	Local leaders (elected and traditional)	Private sector representatives
▪ What DRM activities are carried out by which type of district level institutions (e.g. prevention, mitigation, preparedness, response, recovery and reconstruction)? Are there sectoral or cross-sectoral DRM and/or contingency plans available? ▪ What challenges does your organization face in implementing DRM programmes? What obstacles undermine effective functions? ▪ What are the DRM priorities at the district level? ▪ Which institutions (if any) provide DRM training at district level? How relevant and effective is the training, and how could it be improved? ▪ What aspects of institutional strengthening do you see as most important for DRM at the district level? ▪ How does the district mobilize resources for DRM? e.g. national or district sources, local taxes, donors/relief agencies, others? What sort of problems (if any) are encountered in obtaining adequate funding, and how could these be solved/reduced? ▪ What technical, financial and logistical support does the district receive from the national level? How effective is vertical and horizontal coordination? ▪ What are the sources of early warning (EW) messages at the district level? Are they generated at the national or district level? How can the EW system be improved? Who is responsible for interpreting and communicating EW messages, or giving the alert in case of an emergency? ▪ How can the most vulnerable be reached? Are participatory approaches applied by your organization in poverty alleviation and/or DRM?	▪ What DRM activities are carried out by NGOs and CSOs? e.g. prevention, mitigation, preparedness, response, recovery and reconstruction, CBDRM? ▪ What is the role of NGOs/CSOs in DRM decision-making/planning bodies? Do they participate in district DRM committees or have active roles in implementing government-led DRM plans? ▪ What are the DRM priorities at the district level from NGO and CSO perspectives? ▪ Which rural/urban groups are the most vulnerable; how can they be best reached? ▪ Are there any DRM coordination mechanisms operating among the NGOs and CSOs involved in DRM? How effective are these mechanisms as well as their relations with the public sector DRM organizations, and how could they be improved? ▪ What is your opinion about the performance of Govt systems in implementing DRM? ▪ What are the sources of NGO and CSO funding for DRM activities? How adequate are these? How could they be increased? ▪ In which respects and how could the services of NGOs and CSOs for DRM be further strengthened?	▪ What types of local leadership exist at district level and what are their roles in DRM? ▪ What are the DRM priorities at district level? Which urban/rural population groups are the most vulnerable? Why? ▪ Do local leaders have any comparative advantages in implementing DRM programmes compared with Government organizations, NGOs and CSOs? ▪ What is your opinion about the performance of government and NGO and CSO organizations in implementing DRM programmes? ▪ How do locally elected bodies coordinate/ interact with DRM activities undertaken by government agencies, NGOs and CSOs?	▪ Does the private sector participate in the District DRM Committee? ▪ What is the role of private sector organizations in DRM? examples: prevention/mitigation (e.g, diversify livelihoods through markets, input supply and services, telephones/communications); preparedness (gathering information for EW systems, stocking food and production inputs etc); response, and the recovery/rehabilitation phases (stocking/quick procurement and delivery of food, seeds, agricultural and fishing equipment, veterinary products); reconstruction (roads, bridges, shelter, market facilities, transport systems, stores, schools, health centres etc)? ▪ Does the government provide contracts to the private sector for reconstruction? What are the pros and cons? ▪ Are there problems in acquiring the materials for reconstruction? How can they be solved? ▪ Does the private sector provide financial instruments for risk management or lend money/goods and at what interest rates?

BOX. 4.2 **LIST OF ISSUES IN THE AGRICULTURAL SECTOR AT THE DISTRICT LEVEL**

Vulnerability context
- Agro-ecological/geographical areas at risk, history of impacts, damage and loss estimates;
- Livelihood groups at risk (farmers, livestock herders, fisherfolk, rural poor, indigenous peoples, women, children, elderly, disabled)
- Sub-sectors most at risk (e.g. crop agriculture, fishing, pastoralism)
- Risk maps pertaining to agriculture and allied sector

DRM plans, activities and technical capacity in agriculture
- DRM activities carried out in agriculture and allied sectors
- Formal agricultural extension, livestock and fishery departments' involvement in DRM activities
- Preparation of early warning messages, forecast bulletins and impact outlooks for farmers, livestock herders and fisherfolk
- Existence of contingency plans in agriculture and allied sector agencies
- Examples of integration of DRM activities in district agriculture and allied sector plans
- Livelihood development strategies in agriculture and allied sectors
- Role of vulnerable groups in preparing agricultural sector DRM plan
- Challenges and constraints faced by agricultural sector agencies in implementing DRM programmes
- Types of institutional strengthening within agricultural sector agencies considered most important for effective overall DRM programme implementation
- Involvement in DRM of agri-business consortiums, seed producers' associations, growers' associations, water users' associations, irrigators' groups
- Existence of formal infrastructural facilities related to DRM in agriculture coordinated/supported from the district level such as
  - ❑ Crop agriculture: warehouse, seed storage, community threshing floor, community nursery, village water storage structures, percolation ponds, check dams, community wells, etc.
  - ❑ Livestock: Fodder storage facilities, livestock shelters, community cattle herding, community poultry hatching centres, community grazing land and cattle/poultry feed storage facilities

Monitoring & Evaluation system
- Existence of and gaps in monitoring of impacts of disasters on different population groups, and on the rural economy
- Regular assessment of disaster damage and loss in agriculture and allied sectors and robustness of the methods
- Monitoring indicators for evaluating the DRM projects at the district level
- Existing channels of information exchange about the disasters, coordination and communication to the farmers, herders, and fisherfolk

INTERIM STUDY "PRODUCTS" AT THE DISTRICT LEVEL

Interim "products" to be obtained from the district-level study as inputs for the overall assessment include:
- District hazard profile and multi-hazard vulnerability map at district level
- Summary chart (Venn diagram) of the different organizations involved in DRM at the district level, indicating briefly their different mandates, roles, responsibilities and degree of interaction
- Strengths and weaknesses diagram (SWOT chart) of the district-level DRM systems
- Filled-in monitoring sheet

TABLE 4.2
Monitoring sheet of key processes in DRM systems at the district levell

Key processes and instruments (related to the DRM framework)	Indicators[23]	Status[24]	Name of institutions involved with		Measures & capacities for implementation[25]			Remarks
		Availability	Lead responsibility	Support role	Staff	Techn. skills	financial resources	
1. Disaster risk assessment	▪ Guidelines for district/ community risk assessment available							
	▪ Risk assessment methods and approaches agreed/standardized							
	▪ Assessment of experiences in applying risk assessment tools at district level and lessons learned available							
	▪ Responsibilities and roles of the public, private sector and NGO/CSO organizations for risk assessment defined and operational							
	▪ District hazard and vulnerability maps prepared and regularly updated							
	▪ Typologies of the most vulnerable people, including vulnerability/risk characteristics prepared							
	▪ District risk profile across sectors prepared and regularly updated							
	▪ Criteria for levels of alert established for different types of disaster risk							
	▪ Measures in place to check accuracy of disaster risk assessments							
2. Disaster risk management planning and monitoring	▪ Comprehensive DRM plan established addressing key district vulnerabilities and risks							
	▪ Participatory planning with NGOs/CSOs, local leaders and population groups implemented							
	▪ Involvement of at-risk groups in planning process							
	▪ DRM projects and programmes implemented at district level							
	▪ Vulnerability maps exist addressing single and multiple vulnerabilities at district level							
	▪ Mechanisms and responsibilities for monitoring and updating disaster risk information defined at district level							
	▪ Indicators defined for monitoring the implementation of the DRM plan and assessing the effectiveness of the different components							

23 Indicators help to identify the institutions with specialized institutional and technical capacity in each element of the DRM framework and to identify future opportunities for intervention
24 Proposed assessment categories: NE - Non existent; ENO: existent but non operational; O: operational
25 Proposed assessment categories: G: Good; S: Satisfactory; I: inadequate

Key processes and instruments (related to the DRM framework)	Indicators[23]	Status[24] Availability	Name of institutions involved with		Measures & capacities for implementation[25]			Remarks
			Lead responsibility	Support role	Staff	Techn. skills	financial resources	
3. Disaster mitigation and prevention	■ Past experiences of disaster mitigation at the district level and lessons learned analysed/disseminated							
	■ Community participation in mitigation takes place							
	■ Prevention and mitigation technologies and standards received from the national level and applied/reinforced through sectoral line agencies							
	■ Mandates and responsibilities of sectoral agencies for prevention specified in existing development and/or DRM plans							
	■ Funding mechanisms and resources available for prevention/mitigation							
	■ District DRM committees exist and their roles are clearly defined							
4. Mainstreaming DRM into development planning	■ DRM incorporated in district development plan							
	■ Linkages with other sectors (e.g. agriculture) defined in the plan							
	■ Plans to institutionalize new DRM techniques exist/operational							
	■ Mechanisms for scaling up good DRM practices and lessons learned in place							
	■ Institutional mechanisms for coordination and collaboration exist at the district level							
	■ District-level resource mobilization mechanisms exist							
	■ District-level budget for DRM and development-related activities allocated							
	■ Collaborative DRM and development –related activities with government, NGOs/CSOs, private sector, local leaders in place							
	■ Specialized funding for local leaders for DRM and development–related activities and accountability mechanisms in place							
5. Awareness- raising and dissemination of risk information	■ Mechanism for awareness-raising at district level operational							
	■ Mechanisms in place to communicate the risk information to concerned departments/organizations (including NGOs/CSOs)							
	■ Dissemination of risk information in local languages to the public by specialized media, networks etc.							

Key processes and instruments (related to the DRM framework)	Indicators[23]	Status[24] Availability	Name of institutions involved with		Measures & capacities for implementation[25]			Remarks
			Lead responsibility	Support role	Staff	Techn. skills	financial resources	
6. National early warning systems	■ National early warning messages received at the district level							
	■ Early warning dissemination mechanism exists at the district level							
	■ Systems to ensure outreach of EWS to the most vulnerable people in place							
	■ Dissemination strategy and mechanisms of early warning defined							
	■ Indigenous knowledge incorporated in EW systems							
	■ Mechanisms to prepare sector-specific impact outlooks and risk management plans exist, and plans prepared							
	■ Mechanisms to translate sector-specific outlook and risk management plans into locally understandable languages exist							
	■ Monitoring networks at district level set up (e.g. rain gauges, river water levels)							
7. Preparedness	■ Regular mock and evacuation exercises conducted at the district level							
	■ Directory of the names, contact details, roles and responsibilities of key district-level DRM officials/players available							
	■ District Contingency Plans (DCP) available							
	■ Representatives of NGOs/CSOs participate in preparing/implementing the DCP							
	■ Sector-specific preparedness plans exist							
	■ Emergency communication systems at the district level							
	■ Rescue teams available at the district level							
	■ Evacuation routes identified and local level people informed							
	■ Role of NGOs/CSOs and local leaders in evacuation defined							
	■ Rescue institutions exist and equipped with infrastructure/equipment/transport							
	■ Shelters and high grounds available to save lives and livelihoods							
	■ Warehouses for emergency food and other supplies available in the district							
	■ Clean water supplies available in the district							

Key processes and instruments (related to the DRM framework)	Indicators[23]	Status[24] Availability	Name of institutions involved with		Measures & capacities for implementation[25]			Remarks
			Lead responsibility	Support role	Staff	Techn. skills	financial resources	
8. Providing immediate response and/or relief assistance	▪ Response and support agencies' contact details documented at the district level							
	▪ Relevant service providers and recovery operations exist							
	▪ Emergency health teams established							
	▪ Relief provision standards exist for disaster-affected people							
	▪ Information on transient livelihood options available							
	▪ Directions given to local institutions and informal groups to help affected communities							
	▪ Micro-financing institutions exist at the district level							
	▪ Plans to improve livelihood assets exist							
9. Assessing damage and loss	▪ Damage and loss assessment teams available at the district level							
	▪ Sectoral and cross-sectoral team members designated and trained for loss estimation, using national instruments, standards and processes							
	▪ Standardized reporting formats and analysis methods available							
10 Reconstruction of settlements, infrastructure and services	▪ Mechanisms to implement reconstruction programmes at the district level (trained staff, equipment, materials, funds, transport) exist							
	▪ Reconstruction and resettlement plan exists at the district level							
	▪ Integrated response and recovery measures available							
	▪ Coordination mechanisms for response and recovery exist at the district level (with links to the national level as needed)							
11 Rehabilitation, economic and social recovery	▪ Rehabilitation plan available at the district level							
	▪ Plans for immediate economic recovery after the disasters prepared							
	▪ Long-term development programmes exist							
	▪ DRM elements incorporated into on-going development programmes							
	▪ DRM elements incorporated into sector-specific development programmes							

5 ASSESSMENT OF DISASTER RISK MANAGEMENT SYSTEMS AT THE COMMUNITY LEVEL

WHAT IS THE ROLE OF COMMUNITY-LEVEL DRM INSTITUTIONS?

Community organizations and institutions[26] provide essential goods and services to poor and vulnerable groups, particularly in the absence of well-functioning markets, local governments and safety nets. When they function effectively they can be strong catalysts for livelihood development, enhancing prevention and mitigation, providing rapid assistance during emergencies, and stimulating and supporting livelihood recovery after a disaster.

The community institutions can also make a crucial contribution to the design and implementation of comprehensive local DRM plans within the framework of national DRM programmes, through such activities as: undertaking or participating in local hazard risk diagnoses and vulnerability assessments, awareness-raising of risks and practical and affordable preventative/mitigation measures, maintaining public infrastructure, preparing evacuation plans, setting up rescue and volunteering committees, providing shelter, food, water, and other vital assistance during emergencies, and helping to restore livelihoods after a disaster.

WHY DO INSTITUTIONAL ASSESSMENTS AT THE COMMUNITY LEVEL?

DRM interventions can only be effective in reaching those communities which are seriously vulnerable to natural hazards and disasters if they are founded on broad-based **community participation** in their design, implementation, monitoring and evaluation, and if they build on, complement and strengthen the community's own coping strategies. Such participation is essential to ensure the local community's **ownership** of the DRM **process** and the **adaptation** of DRM principles and programmes to local realities and needs. The purpose of the assessment is therefore to:

■ obtain a snapshot of the 'real live' risk situation at the community level, and to acquire an understanding of what is **actually** done for DRM locally as compared to what **could** be done;

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26 This Guide uses the terms "community" or "local" as roughly interchangeable with the terms "village" or "commune". The crucial qualifying criteria from an institutional perspective is that the term used refers to an institutional level at which there is usually no permanent presence of formal line agencies. Often, the only formal government position, if any, is that of the mayor. The word "village" is normally used for a settlement of 500 households or less. In areas where scattered settlements prevail, "communities" can exist even in the absence of "villages". However, in some countries, villages may have over 10,000 inhabitants. In this case, the "community" may coincide with a neighbourhood within the larger village.

- understand and reflect in the overall assessment the local perceptions of risk and risk coping as well as the institutional requirements for increasing resilience that the community considers important;
- identify the different types of institutions and organizations present at the community level, assess their roles in and their core competencies and capacities for CBDRM, and identify possible gaps in addressing DRM; and
- assess if structures and processes foreseen in the national DRM planning context actually exist at local level, or if they have been modified by communities in order to reflect their local requirements.

WHAT ARE COMMUNITY INSTITUTIONS?

Community institutions are the *rules* that govern intangible institutions like kinship, marriage, inheritance and sharing of oxen at community level as well as *organizations* that operate at community level and are controlled by their members. The expression **"community-based organization"** (CBO) is a generic term applied to all organizations controlled by a community. As can be seen in Box 5.1, there are various types of **community-based organizations.**[27]

BOX 5.1
COMMUNITY-BASED ORGANIZATIONS (CBOs)

Village development committees (VDCs) are organizations of collective governance of a village with responsibility for development. Collective governance of a community implies a set of accepted endogenous rules, i.e. the institutions of the community, and an organization responsible for the application of the rules and for organizing collective action relevant to all the members of the community.

Common interest groups (CIGs) are organizations of some members of the community who come together to achieve a common purpose.

Users associations (UAs) are CIGs established to operate and maintain a facility constructed with public and/or private funds, with resources mobilized from the members of the association.

Micro-finance institutions (MFIs) are community-level CIGs specialized in savings, lending and other financial services.

Disaster management professionals tend to pay more attention to relatively formal, visible organizations, such as those described in Box 5.1, as they are relatively easy to identify and usually have fairly clearly stated objectives. But institutions often overlap – informal, unstructured social or socio-cultural institutions, such as caste, kinship, gender, age grades or informal norms or traditions, may also influence the rules of formal, structured organizations.

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27 *Definitions taken from FAO. 2005. Rapid guide for missions: Analysing local institutions and livelihoods,* by A. Carloni. Rural Institutions and Participation Service. Rome, page 22.

HOW TO INITIATE THE ASSESSMENT?

The diagnostic studies should be conducted in a limited number (2-3) of selected communities/villages. The assessment process at community level should start by identifying the most relevant community organizations, representatives of vulnerable groups and other key informants in the selected villages. The indicative community-level organizations and contacts for collecting relevant information on and for DRM are:

- Village leaders (traditional/modern, hereditary/elected/appointed) with administrative, ceremonial, political and/or religious functions
- Leaders of different hamlets or sectors within larger villages
- Representatives of vulnerable groups, orphans, pastoralists, migrants and indigenous ethnic minorities, with due attention to gender issues
- Local shopkeepers, traders, input sellers, produce buyers, transporters, etc.
- Local-level disaster management committees and volunteers
- Leaders of community-based organizations (CBOs) such as village elders, village development committees, farmers' groups, women's groups, youth groups, producer groups, agri-business consortiums and marketing associations
- Representatives of village cooperatives and micro-finance institutions
- Key informants on relevant sectors (local school teachers, medical/health workers, traditional birth attendants, contact farmers, etc.)
- Local government officials working at the community level
- Elected community representatives in municipal councils
- Representatives of research organizations, local NGOs and CSOs active in the community
- Representatives of development or DRM projects active in the community

The diagnostic studies at community/village level are different in nature from the studies at higher levels as they should be based on **Participatory Rural Appraisal (PRA) methodologies**, and be interactive and flexible in their use of methods. The sequential steps proposed in Box 5.2 may be useful in planning the diagnostic studies.

BOX 5.2 RECOMMENDED STEPS FOR DATA COLLECTION AT THE COMMUNITY LEVEL

1. Select 2–3 villages and inform the village leaders/key informants well before the scheduled visits to invite their participation/collaboration, and agree on how the time of the visit (1 day per village) would be spent. It may be advisable for a team member to make a brief preparatory visit (depending on distances) or this could be done by a member of the national or district focal point units either directly or through local contacts.

2. Prepare before arrival in the villages a list of local institutions relevant to DRM, drawing on information obtained in the district-level meetings (the list could then be confirmed or amended during the community-level work). Decide on the tools and methods for the community profiling and local institutional assessment.

3. Initiate the field visit by making a brief plan with the village leaders and representatives of key community organizations. Then conduct a village walk before holding small focus group discussions using a range of PRA tools with 2-3 different groups of community members to understand the community development situation, its hazard exposure, DRM- related actions and institutional profile. One stakeholder group could be exclusively composed of women in order to capture an unbiased gender perspective on the issues. The following tools are suggested to catalyse the discussions in these focus groups:

   ■ hazard risk and vulnerability map of the village, including areas under hazard threat. Use the map to discuss which assets are under threat by which hazard, where evacuation routes or safety platforms are located, which groups are the most vulnerable and what mechanisms exist, if any, to help them in disaster situations;

   ■ seasonal calendar to discuss and link key livelihood activities (cropping/ livestock/other key income-generating activities) with hazard risk occurrence/ exposure and existing coping strategies;

   ■ Venn diagram to assess and understand the roles of key community organizations and their relative importance for the village, assess their actual vis à vis their potential role in DRM, discuss and compare the importance and capacities of local organizations for livelihood development and DRM;

   ■ a simple SWOT analysis chart (pre-prepared on flip chart paper with leading questions) to assess the functionality of the local DRM system. What works well? What coping strategies exist? Where are the perceived gaps? What could be strengthened? What opportunities exist? What threatens the functioning of the local DRM system?

   ■ other optional PRA tools to obtain additional information/details may include group discussions, ranking exercises to assess priorities, and seasonal calendars.

4. Conduct a synthesis session (village meeting) with all stakeholder groups to present and discuss the team's findings, and to build consensus on priorities and key recommendations.

The steps proposed in Box 5.2 are indicative, and may need to be adapted to different types of communities and situations. To the extent possible, the analysis should aim to compare the perspectives of different stakeholder groups.[28]   A list of indicative key thematic areas and

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28 Although communities comprise different socio-economic groups – sometimes with conflicting interests – there is unlikely to be time during this exercise to undertake a carefully managed participatory local institutional assessment involving all concerned stakeholders. The assessment at community level should, nevertheless, try to obtain the views of a variety of stakeholder groups, particularly the most vulnerable who are often **excluded** in traditional, top-down DRM institutional assessments. This can be achieved by dividing the assessment team members among several small working groups.

related questions which can be addressed while applying specific PRA tools is given below:

QUESTIONS AND TOOLS FOR ADDRESSING SPECIFIC ISSUES AT THE COMMUNITY LEVEL

(A) Vulnerability context [29]*:* Key issues and questions to help assess the vulnerability context include:

i) Assessing the overall vulnerability context
- What is the size of the population? How is it distributed? How many households are there in the village, by ethnic group if relevant?
- How often do hazards/disasters hit the community? Is the incidence growing?
- What are the main causes of vulnerability?
- What are the local perceptions of the risk of natural hazards/disasters differentiated, if appropriate, by socio-economic category or geographical location?

FIGURE 5.1

Village mapping with key informants and community representatives

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A village walk and village/community mapping: (for a description of the methodology see Annex I) are simple, but most appropriate tools for assessing the vulnerability context. These tools also help "break the ice", gain the community's confidence and obtain an overall picture of the village situation and its hazard profile. During the exercises a range of topics can be discussed and mapped. These discussions should also be used to fine-tune specific questions concerning the local institutions that should be addressed in more depth later through a Venn diagram and/or SWOT exercise.

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29 The assessment of the vulnerability context is not meant to be a fully-fledged vulnerability assessment, for which many other tools exist. In this context it is only necessary to understand the main patterns of vulnerability as a basis for the DRM institutional analysis.

ii) Hazard exposure of the most vulnerable groups

■ Which are the main vulnerable households/peoples in the community and where are they located?

■ Where do the different ethnic groups live? If possible, where are female-headed households [30] located?

■ To which natural hazards are they particularly vulnerable and why?

iii) Hazard exposure of livelihood assets

■ What are the main natural resources and productive assets (e.g. land, water, pasture, trees, tree nurseries, fish ponds, animal shelters, machinery, irrigation systems, wells, inputs/fodder/food storage facilities etc.) and where are they located within the community's geographical area?

■ Are they available to the community only or are they also used by others (government, multi-national corporations, and local private sector companies)? Which groups in the community have access to them, which groups do not and why?

■ To what degree are the resources and/or productive assets exposed to hazard impacts (differentiated by hazard)?

FIGURE 5.2

Hazard vulnerability map of pilot DRM village, Ludbur, Grenada (2007)

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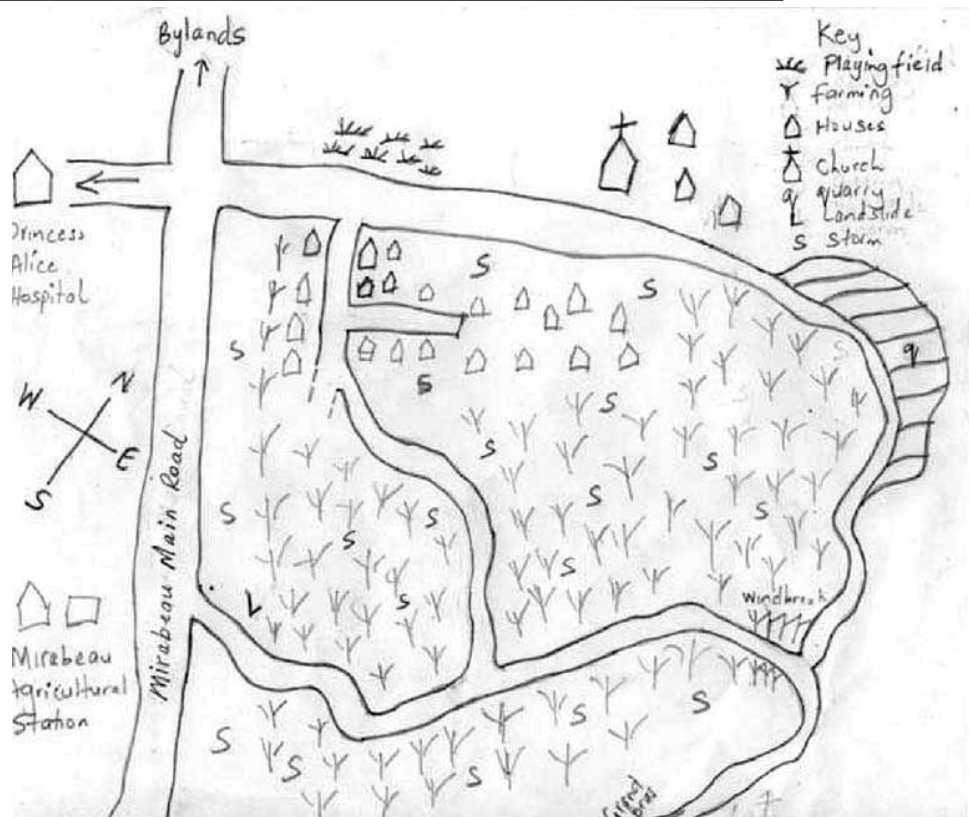
30 In areas devastated by HIV/ADS, for example, it may also be advisable to differentiate households headed by children or elderly relatives.
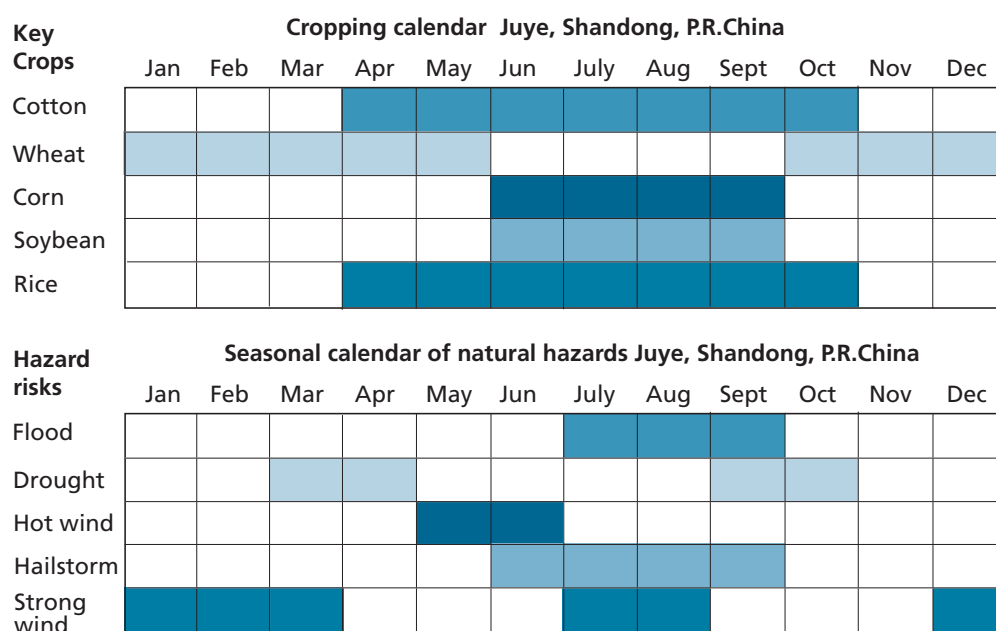
iv) Disaster preparedness, rescue and emergency response infrastructure and facilities

- What community infrastructure and equipment (e.g. schools, stores, wells, boats, fire fighting equipment, power station, hospital or health clinics) are available to save lives and livelihoods during a disaster and/or to provide temporary shelter and emergency supplies? Where are they located (see, for example, Figure 5.2)?
- What formal and informal community facilities are available for DRM?
  - ❑ Crop agriculture: warehouses, seed storage, community threshing floor, community nursery, village water storage structures, percolation ponds, check dams, community wells etc.
  - ❑ Livestock: Fodder storage facilities, livestock shelters, community cattle herding, community poultry hatching centres, community grazing land and cattle/poultry feed storage facilities
  - ❑ Fisheries: Fish storage facilities, local markets, fingerling production units, fishing nets, protection nets
- How are above facilities maintained?

FIGURE 5.3

Example of a seasonal cropping calendar combined with a hazard threat calendar (Shandong, China)

Seasonal calendars (see Figure 5.3) are valuable PRA tools to assess seasonal vulnerability patterns and the hazard implications. They can be used in community meetings to help identify the key hazard risks facing the community and to stimulate and focus discussions on existing and potential local coping strategies, for example, in the context of seasonal planning of concrete agricultural and livelihood-related activities.

Key Crops	Cropping calendar Juye, Shandong, P.R.China											
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Cotton				■	■	■	■	■	■	■		
Wheat	�	▫	▫	▫	▫					▫	▫	▫
Corn						■	■	■	■			
Soybean						▫	▫	▫	▫			
Rice				■	■	■	■	■	■	■		

Hazard risks	Seasonal calendar of natural hazards Juye, Shandong, P.R.China											
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Flood							■	■	■			
Drought			▫	▫					▫	▫		
Hot wind					■	■						
Hailstorm						▫	▫	▫	▫			
Strong wind	■	■	■				■	■				■

v) Seasonal vulnerability hazard risk planning
- When do hazards occur?
- Do hazards coincide with peak working seasons ?
- Do hazards threaten peak production periods or the harvest?

vi) Local coping mechanisms and adaptation strategies
- What coping strategies exist for each hazard type?
- Which organizations/institutions, if any, support existing coping strategies or promote new strategies? Who has access to/uses these supporting services?
- Are viable local-level technology options and good practices for DRM available at the community level? If so, what are they?

(B) Institutional set-up and capacities for DRM
Key issues and questions to help understand the institutional set-up at community level, locally defined tasks and responsibilities, if any, and local capacities include:

i) Existence of local DRM institutions and/or access to DRM services
- What formal and informal institutions and associations exist in the community? Which of these control or influence ownership of or access to local resources and what are the implications for the livelihood security and livelihood recovery following a disaster for different socio-economic groups? Do any of these institutions deliberately or unintentionally exclude, bypass or discriminate against poor risk-exposed households?
- Are there any village-level DRM committees and what are their roles?
- Which other formal and informal community institutions and organizations address DRM issues and emergency preparedness and response? What are their specific functions, contributions, and managerial and technical capacities and competencies?
- What health facilities, if any, exist within the community? Are there any special facilities to cope with emergencies and epidemics?
- Is there a local early warning system and who is responsible for it? Do people know where to go for safety if a disaster warning is issued?
- Are there financial resources available at the community level for DRM? What formal or informal funding organizations (including money lenders and savings groups) operate within the community that already provide or could potentially provide funding for DRM?
- Who coordinates and who implements local rescue and rehabilitation efforts?
- What assistance is available, if any, for developing risk coping mechanisms or technologies? Who provides this assistance?
- What are the local perceptions about the appropriateness and effectiveness of support received, if any, from various higher-level governmental organizations/agencies related to development in general and to DRM in particular (e.g. financial assistance, technical advice, service delivery, infrastructural investments and maintenance, and early warning systems)?

ii) Performance of local DRM institutions and/or services
The specific thematic issues which could be addressed through a SWOT analysis in order to complement the content analysis of the other tools could include:
- Are local DRM institutional structures and their key elements in place with the responsibilities of key players determined?

- Do local DRM institutions have the skills, power and legitimacy to implement DRM activities effectively?
- If not, are new institutions needed or could existing institutions perform the DRM activities with additional capacities, knowledge and/or resources?
- Are there any local DRM plans?
- Are DRM services (such as rescue, transport, power and water supply, emergency food, medical and veterinary supplies, markets, agricultural extension, health, education available)?

FIGURE 5.4

Example of a Venn diagram illustrating a family's interactions with the pastoral community institutions in Jianshe Township, North Western China

A Venn diagram is an easy, practical tool which is most effective in addressing institutional and organizational issues, including structure, capacities, coordination and linkages.
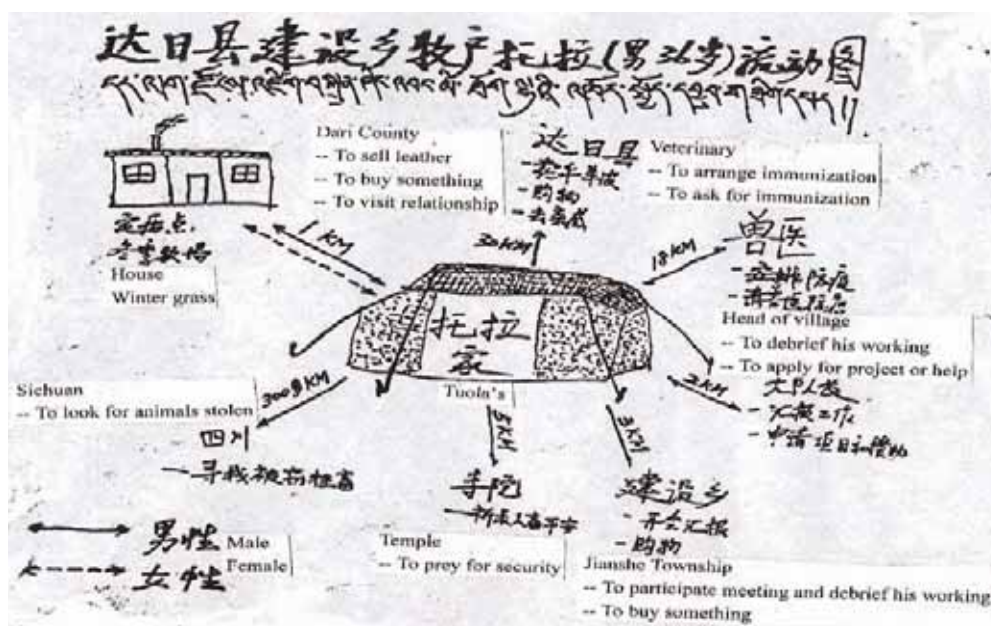
iii) Options for improved community-level DRM institutions

- How satisfied are local people with the existing DRM-related service providers?
- Are there alternative service providers available which the villagers think could offer more effective DRM services?
- Which local institutions would be the best entry point(s) for DRM interventions? Which of these do poor households trust most?
- What kind of support (capacity-building, equipment, finance, awareness-raising) would key local institutions require in order to implement a DRM programme?
- Does the community participate in any on-going development projects that could facilitate the community's implementation of a DRM programme?

KEEPING TRACK OF THE INFORMATION AS THE ASSESSMENT PROCEEDS

Table 5.2, which provides a checklist for monitoring outcomes and findings from the various PRA sessions and interviews with key informants, should be filled in at the end of the community-level assessment. The Table will complement those filled out after completing the national- and district-level assessments (see modules 3 and 4) to provide valuable inputs to the overall analysis and formulation of recommendations (see module 6).

FIGURE 5.5
Conducting a risk-related SWOT analysis with a herders' group in Mongolia

A *SWOT analysis* (strengths, weaknesses, opportunities and threats) is a useful tool to discuss and assess four main categories of issues: What goes well? Where are the perceived gaps, and what should be strengthened? What opportunities exist and which threats influence the functionality of the local DRM system? The outcomes from a SWOT analysis can be seen from Table 5.1, which presents a summary of a strengths and weaknesses assessment carried out with herders in rural Mongolia.

The SWOT methodology helped the assessment team and the herders themselves to identify and summarize the herders' perceptions and opinions about the roles and responsibilities of local actors in DRM as well as their perceptions and views about higher-level actors and actions.

INTERIM STUDY "PRODUCTS" AT THE COMMUNITY LEVEL

Interim "products" to be obtained from the community-level study as inputs for the overall assessment include:
- Community hazard profile
- Multi-hazard vulnerability map at the community level
- Summary chart (Venn diagram) of the different organizations involved in DRM at the community level, indicating briefly their different mandates, roles and responsibilities
- Strengths and weaknesses diagram (SWOT chart) of the community-level DRM system(s)
- Filled-in monitoring sheet

TABLE 5.1

Summary table of a strengths and weaknesses assessment with herders in rural Mongolia

Main actors	What is done (or not done) in			
	normal year	preparing for zud	responding to zud	recovering from zud
Herders	■ normal (medium level) winter preparation; ■ ordinary (if needed) cooperation with other actors; ■ timely marketing of produce	■ identify additional needs to enhance preparedness; ■ agree with neighbours a joint livestock evacuation plan; ■ seek assistance from other sources; ■ enhance household preparation; ■ increase marketing of live animals and carcass meat; ■ share irrigated fields for hay growing (in Tarialan, Uvs)	■ give food supplements to exhausted animals; ■ move large and unproductive livestock to distant otor; ■ escape from the zud area;	■ receive restocking package; ■ wealthier and experienced herders may look for loans; ■ engage in cropping as additional source of livihood and improved feed making;
Herders groups (Khot ail)	■ labour pooling for joint herding; ■ some incidental joint marketing;	■ move large and unproductive animals to distant otor; ■ undertake joint stocking of salt/minerals and shelter repair; ■ undertake joint buying of small amounts of local hay;	■ share transportation for distant movement; ■ share herding tasks (leave small livestock with other herders and take large stock to remote areas);	■ no reasonable ideas specified
Local cooperative	■ private business groups produce hay for sale; ■ local shops retail commodities;	■ buy some fodder for sale to members; ■ sell goods to members on credit for reimbursement after they sell their cashmere;	■ no definite plans and specific targets identified	■ no definite and viable strategies exist
Bag (equivalent to community level)	■ provide regular and lawful administration;	■ make regular reports on the risk of disaster to the sum administration; ■ encourage herders and local organizations to improve their preparation;	■ ensure timely information flow on disasters and needs ■ ensure fair distribution of external assistance and relief	■ organize restocking scheme, if applicable;
Sum (district)	■ provide regular and lawful administration; ■ implements policies relevant to local conditions;	■ announce relevant weather forecasts to bags and herders ■ talk to bags and neigbouring sums on escape plans to otors; ■ inform and request the aimag for potential assistance;	■ mobilize local resources for grazing to avoid mass emergency escape; ■ receive external inputs for distribution;	■ initiate bag-level restocking
Aimag (province)	■ provide regular and lawful administration; ■ implements policies relevant to local conditions; ■ provide general directives;	■ develop a disaster mitigation plan for the aimag and sums; ■ inform the central government of the risk of disasters; ■ contact international and national NGOs and initiative groups for assistance and aid;	■ mobilize reserves locally available or provided as aid; ■ improve service delivery to areas in need;	■ restock; ■ adopt life improvement measures, like jobs, cropping and others; ■ external support (NGOs and others) for local measures;
National Government	■ formulate policies and laws; ■ provide administration; ■ provide general directives;	■ prepare site-specific plans to mitigate likely disasters; ■ request international donor support in anticipation of potential disasters; ■ make arrangements with national and international donors for assistance and aid;	■ mobilize national financial and physical reserves; ■ re-fill the reserves; ■ distribute reserves (pasture, fodder etc) to assist disaster-stricken communities;	■ initiate poverty reducing measures with national and international support; ■ Implement nationwide relief projects and programmes;
NGOs	■ implement legally-permitted DRM activities.	■ check on the ground conditions; ■ identify areas and communities at risk; ■ prepare to deliver assistance if needed.	■ provide assistance to eligible target groups.	■ Implement small short-term pilot exercises for target groups;

Legend: zud= extreme cold otor=summer mobility for animal fattening

TABLE 5.2

Monitoring sheet of key processes in DRM systems at the community level

Key processes and instruments (related to the DRM framework)	Indicators[31]	Status[32]	Name of institutions involved with		Measures & capacities for implementation[33]			Remarks
		Availability	Lead responsibility	Support role	Staff	Techn. skills	financial resources	
1. Disaster risk assessment	■ Local communities have been involved in risk assessment exercises							
	■ Community hazard and vulnerability maps prepared and regularly updated							
	■ Livelihood profiles of vulnerable groups identified							
	■ Livelihood assets at risk identified							
2. Disaster risk management planning and monitoring	■ Community DRM committee and volunteers exist							
	■ Community DRM plan addressing major hazards exists							
	■ At-risk groups involved in the planning process							
	■ Hazards monitoring technology available and procedures defined							
3. Disaster mitigation and prevention	■ Disaster risk reduction practices are carried out at village level (e.g. water harvesting)							
	■ Community/village is included in district hazard-/sector-specific mitigation plans							
	■ Advisory services on disaster mitigation are available at community/village level							
	■ Community-based DRM methods are practised and understood properly by CBOs/CSOs and the community members							
4. Awareness raising and dissemination of risk information	■ Awareness-raising campaigns undertaken at village level							
	■ Local media programmes targeted to DRM awareness-raising prepared/disseminated							
	■ Community is aware of alert signals for different types of disasters							
	■ Mechanisms exist to communicate hazard risk to community level							

31 Indicators help to identify the institutions with specialized institutional and technical capacity in each element of the DRM framework and to identify future opportunities for intervention
32 Proposed assessment categories: NE - Non existent; ENO: existent but non operational; O: operational
33 Proposed assessment categories: G: Good; S: Satisfactory; I: inadequate

Key processes and instruments (related to the DRM framework)	Indicators[31]	Status[32] Availability	Name of institutions involved with		Measures & capacities for implementation[33]			Remarks
			Lead responsibility	Support role	Staff	Techn. skills	financial resources	
	■ Community-based awareness approaches implemented (field days, orientation meetings, folk songs, dramas, demonstration rallies, exchange visits etc.)							
5. Community level early warning systems	■ Early warning messages are received at the community level							
	■ Mechanisms exist to communicate hazard risk to the community							
	■ Systems to ensure outreach of EWS to the most vulnerable people in place (including, if relevant, translation of messages into local languages)							
	■ Indigenous knowledge incorporated in EW systems (e.g. local calendars, local measures, almanac etc.)							
6. Preparedness	■ Community preparedness plan exists							
	■ Roles and responsibilities allocated and directory of the names and inventories of equipment for use during emergency available							
	■ Shelters and high grounds available to save lives and livelihoods							
	■ Warehouses for emergency food and other supplies available in the area							
	■ Volunteers trained to provide support in case of emergency							
	■ Evacuation routes identified and local people informed							
	■ Regular mock evacuation exercises conducted at community level							
7. Providing immediate response and/or relief assistance	■ Social capital networks to support neighbours and relatives exist							
	■ Search and rescue teams available at the community level							
	■ Mechanisms/procedures for community-level emergency food distribution exist							
	■ Mechanisms/procedures for organizing emergency shelter in place							
	■ Emergency relief has been targeted to the most vulnerable households							
	■ Community mechanism to coordinate the response in place							

Key processes and instruments (related to the DRM framework)	Indicators[31]	Status[32] Availability	Name of institutions involved with		Measures & capacities for implementation[33]			Remarks
			Lead responsibility	Support role	Staff	Techn. skills	financial resources	
8. Assessing damage and loss	■ Damage and loss assessment teams consulted with community representatives							
	■ Damage and loss assessments include vulnerability and livelihood profiles							
9. Reconstruction of settlements, infrastructure and services	■ Community rehabilitation plans exist (formulated with community consultation)							
	■ Reconstruction, resettlement and sector rehabilitation take into consideration "building back better" principles							
	■ Rehabilitation plans take into consideration local livelihood strategies							
	■ Community has benefited from national compensation schemes							
10. Rehabilitation, economic and social recovery	■ Community has benefited from international assistance for rehabilitation							
	■ Mechanism to prepare plans for rehabilitation and economic recovery exist							
	■ Funding mechanisms supporting rehabilitation exist							
	■ Evidence of provision of key production inputs needed for livelihood recovery (e.g. fishing boats and equipment, farming implements, seeds and fertilizers)							
	■ Micro-financing institutions contribute to rehabilitation							
	■ Plans to re-build area-specific livelihoods exist							
	■ Guidelines for local institutions and informal groups to help affected communities exist							
	■ DRM elements incorporated into livelihood restoration/development programmes to build resilience to future hazards							

6 ANALYSING AND INTERPRETING THE DATA

The purpose of this module is to outline a number of possible steps and tools to analyse and synthesize the information collected during the assessment to make it available in a form that facilitates decision-making about institutional reform and/or capacity-building. The focus is on the analysis of institutional and organizational structures and capacities for disaster risk management (DRM) at various levels of governance, including the vertical/horizontal and formal/informal linkages.

The proposed approach builds on FAO's experience in applying the sustainable livelihoods framework to the analysis of local institutions [34] and in developing capacity-building projects for DRM in agricultural institutions. Reference is also made to the Hyogo Framework for Action and other recent work undertaken by a number of international organizations in developing indicators to monitor progress in mainstreaming DRM into development planning.

The working definition of "institutions" used in this Guide includes both the "rules of the game" (laws, policies, processes, formal and informal norms, and rules and procedures) and organizations, the "players of the game".

The suggested steps for final data consolidation and analysis include:

- Mapping the DRM institutional arrangements;
- Analysing the coordination mechanisms and vertical-horizontal linkages;
- Assessing the DRM system's strengths and weaknesses and progress in relation to the implementation of the Hyogo Framework for Action (HFA); and
- Presenting the main findings and recommendations.

The proposed flow of analysis illustrated in Figure 6.1 starts from the local-level vulnerability context applying a bottom-up perspective.

STEP 1: MAPPING THE NATIONAL DRM ORGANIZATIONAL ARRANGEMENTS

Previous modules have highlighted the importance of institutions for DRM across government levels and identified key aspects to be considered for analysis The objective of the proposed analytical mapping exercise is to obtain a complete picture about the key organizations, their responsibilities and the regulatory frameworks which shape the DRM system and its functionality [35]. Key formal

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34 FAO. 2003. *Local institutions and livelihoods: Guidelines for Analysis* by N. Messer and P. Townsley. Rome; FAO. 2005. *Rapid Guide for Missions; analyzing local institutions and livelihoods,* by A. Carloni. Rome.

35 Some institutions might be relevant in all cases but others will vary according to the sectoral and hazard focus of the study. For example, water users' associations and water resources departments are highly relevant for drought management while fishermen's associations and policies for coastal management are relevant for DRM programmes related to the management of tropical storms.

and informal organizations to consider are those that:

■ have lead responsibility for major DRM functions (see the monitoring sheets given in modules 3-5);

■ have a mandate to improve livelihood assets, particularly of the poor, thus reducing exposure to hazard risk;

■ are likely to promote policy reform and/or innovations in DRM practices; and

■ represent the interests of major stakeholders and/or have the capacities to deliver key services to these stakeholders.

FIGURE 6.1

A general pattern to present a DRM system[36]
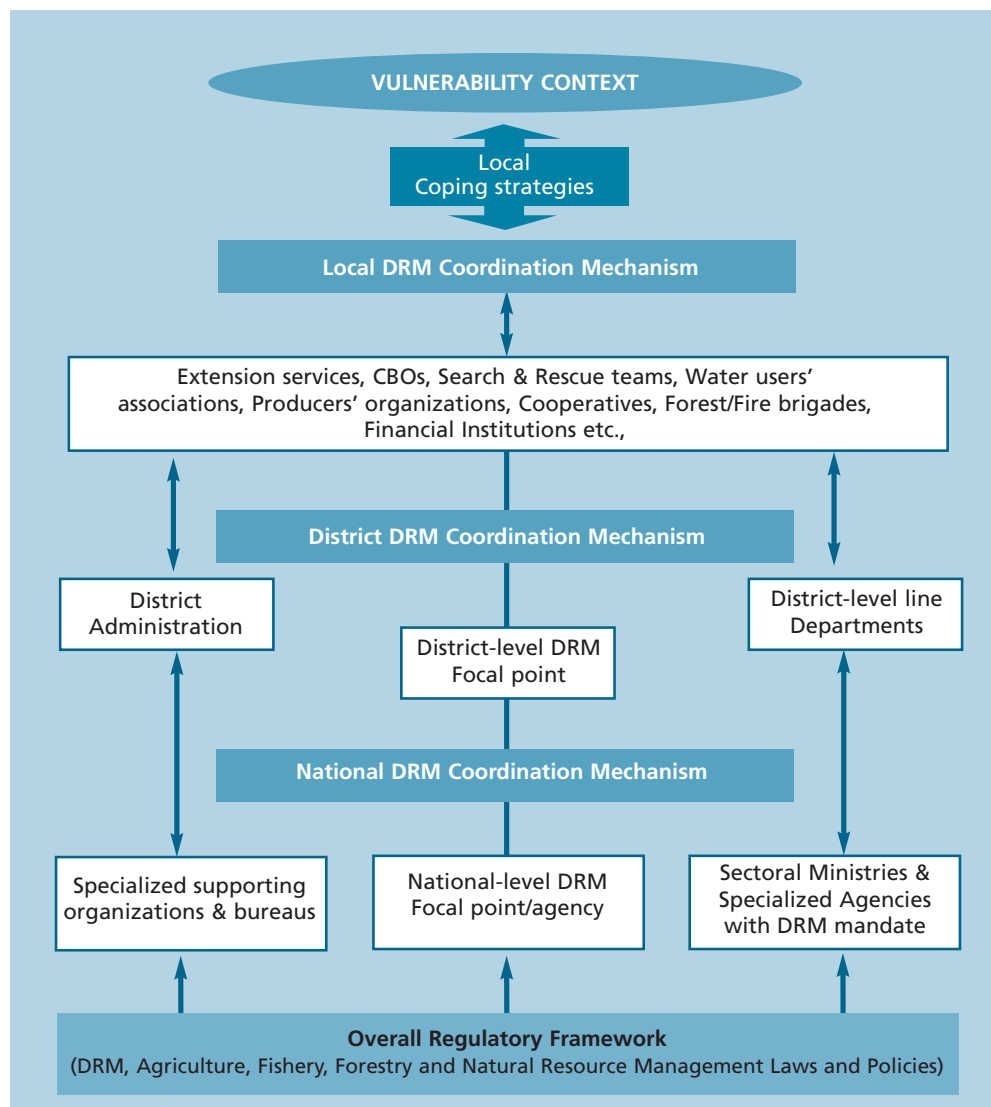
36 The figure presents an illustrative example. The actual organizations and linkages will be country- and context-specific.

To obtain the full picture of institutions involved in DRM, it is useful to combine and arrange the data collected at the three levels on the existing institutional structure into a single comprehensive organigram. This is best done in a flexible way using a card method. A suggested sequence of steps to prepare the consolidated chart is to:

- first, draw cards (one organization per card) and organize the cards showing the different:
  - local organizations which provide/should provide DRM services to support local coping strategies and practices;
  - district-level organizations which provide/should provide support for DRM at intermediary and local levels; and
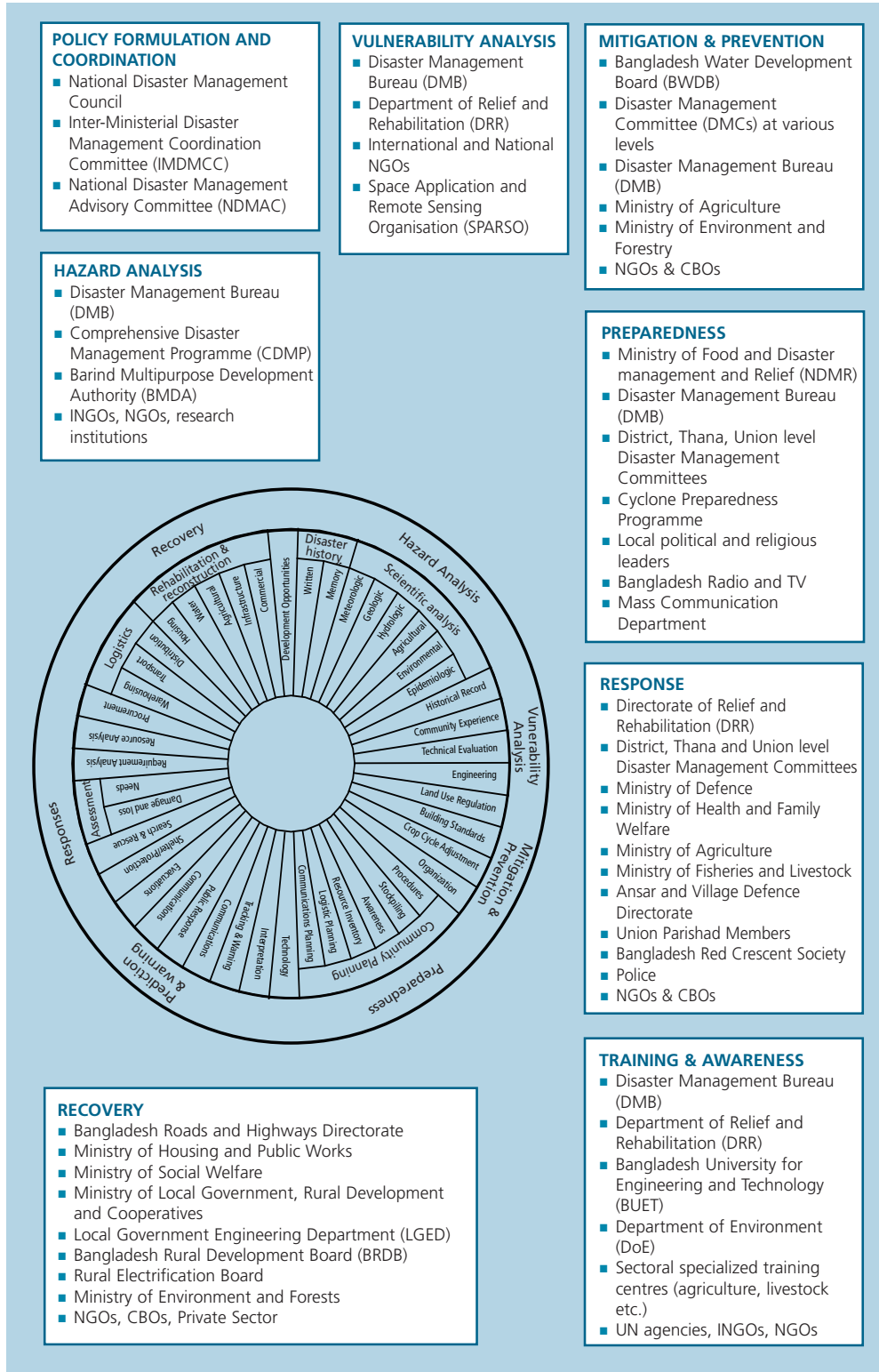 - national-level organizations which influence the positive/negative functioning of local-level organizations in the context of DRM.
- second, add cards next to the organizations in the organigram chart indicating (with the help of different coloured cards) the main regulatory institutional frameworks (laws and policy frameworks) that inform, influence or regulate the roles, responsibilities and interactions of the mapped organizations
- third, separately list the mandates/perceived roles and responsibilities of the various key organizations for DRM at the three levels. This can be visualized through specific diagrams. An illustrative example prepared for the Bangladesh national level is given in Figure 6.2. The functions/mandates in the diagram are arranged according to the key responsibility areas presented in the DRM framework (Figure 1.1). These diagrams/visual aids can be prepared easily by using:
  - the information summarized in the monitoring sheets (given at the end of modules 3-5) that should be filled in after the assessments at the three organizational levels;
  - additional information collected on cards in a brainstorming session by the assessment team. This method can be particularly useful to identify the informal or default roles undertaken by organizations and to check if the actual functions meet the requirements specified in the country's formal DRM regulatory framework/action plan (if there is one). It is also a fruitful method to use at the community level where roles and responsibilities are often complex, unwritten and not readily apparent to visitors.

STEP 2: ANALYSIS OF VERTICAL & HORIZONTAL LINKAGES AND COORDINATION MECHANISMS

Institutional inter-linkages are crucially important in the context of DRM. Disasters affect societies across sectors and socio-economic groups, although some groups may be more vulnerable. Thus, both immediate response operations and longer-term DRM strategies require effective cross-sectoral planning and implementation mechanisms. Furthermore, experience has shown that effective risk management requires a combination of bottom–up and top-down approaches. Local actors play a key role yet they often act without a mandate from the central level or are expected to perform critical functions without appropriate resources. Horizontal and vertical linkages between and within institutions are therefore vital to integrate and coordinate actions of different sectors and stakeholders and to ensure coherence across

FIGURE 6.2

Formal DRM Systems in Bangladesh (illustrative example from ADPC)

POLICY FORMULATION AND COORDINATION
- National Disaster Management Council
- Inter-Ministerial Disaster Management Coordination Committee (IMDMCC)
- National Disaster Management Advisory Committee (NDMAC)

HAZARD ANALYSIS
- Disaster Management Bureau (DMB)
- Comprehensive Disaster Management Programme (CDMP)
- Barind Multipurpose Development Authority (BMDA)
- INGOs, NGOs, research institutions

VULNERABILITY ANALYSIS
- Disaster Management Bureau (DMB)
- Department of Relief and Rehabilitation (DRR)
- International and National NGOs
- Space Application and Remote Sensing Organisation (SPARSO)

MITIGATION & PREVENTION
- Bangladesh Water Development Board (BWDB)
- Disaster Management Committee (DMCs) at various levels
- Disaster Management Bureau (DMB)
- Ministry of Agriculture
- Ministry of Environment and Forestry
- NGOs & CBOs

PREPAREDNESS
- Ministry of Food and Disaster management and Relief (NDMR)
- Disaster Management Bureau (DMB)
- District, Thana, Union level Disaster Management Committees
- Cyclone Preparedness Programme
- Local political and religious leaders
- Bangladesh Radio and TV
- Mass Communication Department

RESPONSE
- Directorate of Relief and Rehabilitation (DRR)
- District, Thana and Union level Disaster Management Committees
- Ministry of Defence
- Ministry of Health and Family Welfare
- Ministry of Agriculture
- Ministry of Fisheries and Livestock
- Ansar and Village Defence Directorate
- Union Parishad Members
- Bangladesh Red Crescent Society
- Police
- NGOs & CBOs

TRAINING & AWARENESS
- Disaster Management Bureau (DMB)
- Department of Relief and Rehabilitation (DRR)
- Bangladesh University for Engineering and Technology (BUET)
- Department of Environment (DoE)
- Sectoral specialized training centres (agriculture, livestock etc.)
- UN agencies, INGOs, NGOs

RECOVERY
- Bangladesh Roads and Highways Directorate
- Ministry of Housing and Public Works
- Ministry of Social Welfare
- Ministry of Local Government, Rural Development and Cooperatives
- Local Government Engineering Department (LGED)
- Bangladesh Rural Development Board (BRDB)
- Rural Electrification Board
- Ministry of Environment and Forests
- NGOs, CBOs, Private Sector

governance levels. The analysis of inter-institutional horizontal and vertical linkages forms a particularly important component of the assessment of the following key elements of DRM systems:

- mechanisms to ensure effective formal and informal interaction within and between the concerned ministries and departments at all levels and the involvement of stakeholder groups in decision-making processes that address DRM concerns;
- the degree of consistency in the policy, planning and implementation processes within and across different levels of government, NGOs, CSOs/CBOs, private sector and community-based institutions;
- communication of data and information especially through forecasting, early warning, contingency plans for disaster preparedness, damage and loss assessment, and recovery and rehabilitation;
- coordination of operational activities before, during and after disasters among the different levels of the concerned institutions; and
- incorporation of DRM concerns into sector-specific development planning and/or the development of hazard risk mitigation plans.

BOX 6.1

DEFINITIONS OF HORIZONTAL AND VERTICAL LINKAGES

Horizontal linkages: refer to the interaction and coordination between the concerned government departments and ministries at each level and the mechanisms for involving stakeholders and interest groups in decision-making processes to address DRM concerns.

Vertical linkages: refer to top-down and bottom-up planning, implementation and monitoring processes and mechanisms in order to ensure appropriate channelling of resources, information and instructions.

The analysis of linkages can be carried out easily by using the organigram prepared in the previous analytical step. The exercise will now focus on drawing lines between cards to highlight existing (or missing),

- cross-sectoral and multi-stakeholder coordination mechanisms
- reporting lines, lines of command and bottom-up planning and feedback processes
- collaborative arrangements

or to add qualitative information on specific links or actors; one could also highlight specific areas of strengths and/or weaknesses though coloured circles.

FIGURE 6.3

An illustrative transcription of a card exercise

Vertical/horizontal linkages between DRM institutions at provincial, district and commune level (Gio My commune, Geo Linh district of Quang Tri province, Vietnam). Institutions highlighted in red are DRM agencies responsible for issuing official warnings, coordination and monitoring, mobilising equipments and mitigation measures; institutions highlighted in green are supporting service agencies; pink are institutions with field presence; dark frames around actors indicate that they are strong players with high operational capacities. Solid lines between actors represent strong collaborative/communication linkages; dotted lines with arrows represent weak linkages; broken lines without arrows represent very weak linkages.
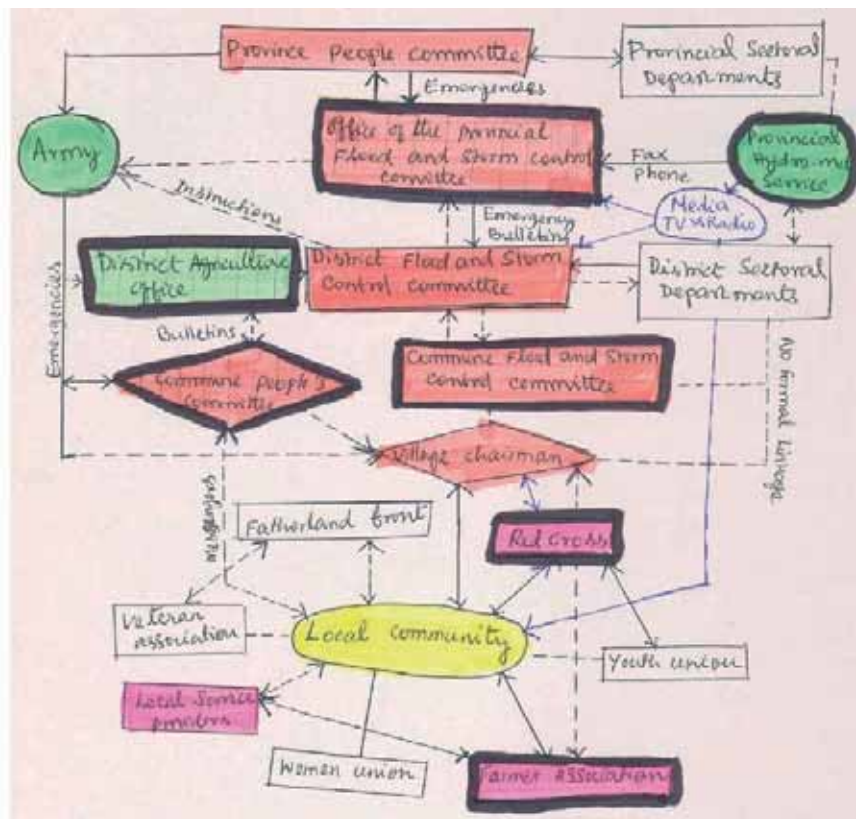
The final "Venn diagram" will provide an overview of key organizations and their linkages across sectors and administrative/government levels. An illustrative example of horizontal/vertical linkages between the institutions at provincial, district and community level is given in Figure 6.3. However, for the purpose of the analysis a more in-depth assessment of specific aspects will probably be needed.

Additional process maps (a combination of flow charts and organigrams) on specific DRM system components which may be of particular interest to the study team, can facilitate the tracking of critical actors, resources and decision-making processes in order to identify possible blockages and opportunities for systems' improvement. An example

looking more closely at institutional links and processes related to early warning is provided in Figure 6.4.

FIGURE 6.4

Mapping elements of an early warning system at the national level

(Block arrows represent the ideal components of an early warning system; block lines indicate the existing system; dotted lines and boxes represent non-existent and/or weak components).
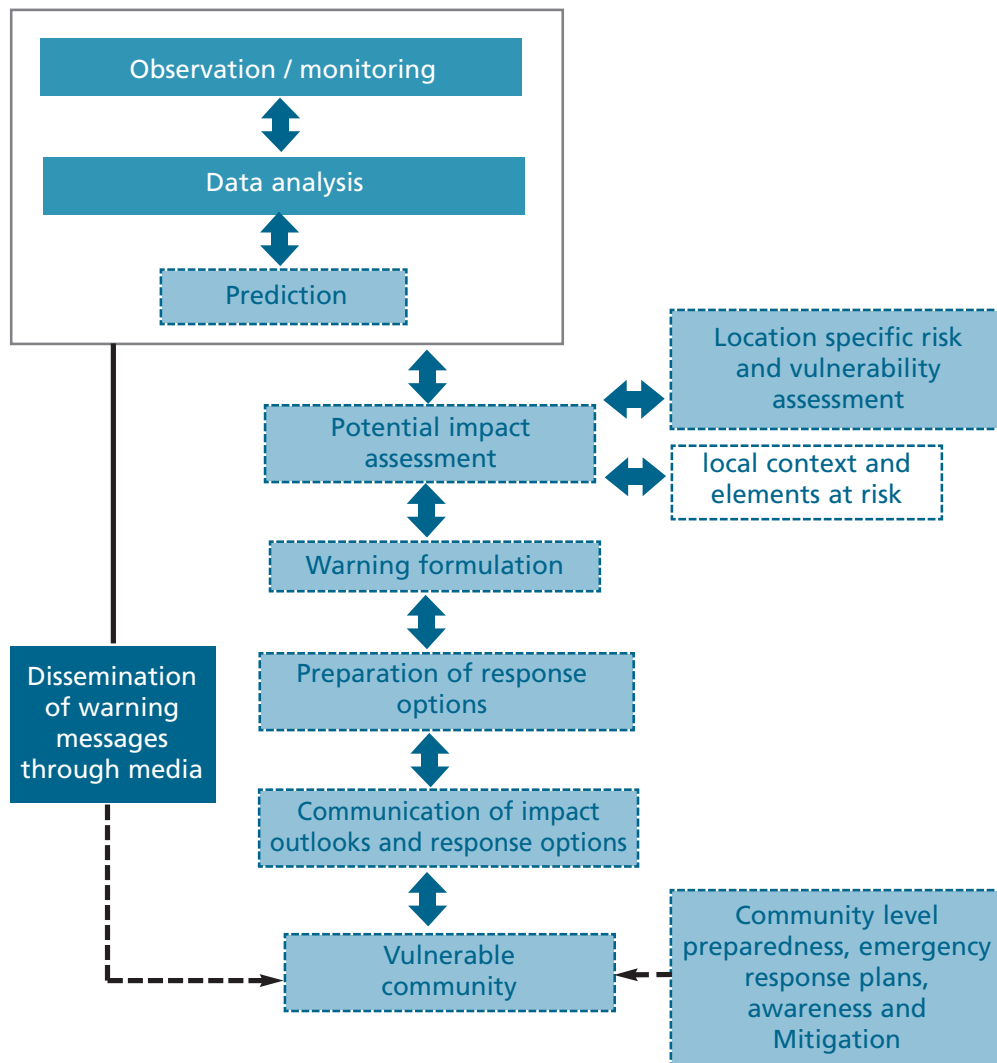
STEP 3: ANALYZING THE STRENGTHS AND WEAKNESSES OF THE EXISTING DRM SYSTEM

The third main step of the proposed analytical process is to identify and analyse the strengths and weaknesses of the assessed DRM system.

Using the maps and diagrams prepared in the previous steps and the monitoring sheets of each layer of the DRM system diagnosis (or those elements relevant for the assessment), the next challenge is to draw conclusions on key strengths and weaknesses (gaps) of the system starting from its sub-components. This also includes thinking about the opportunities and threats which may affect the further development of the DRM system.

Capacity issues will be of core importance since any institutional assessment is closely associated with capacity development. An overview of the DRM system's (or of specific elements of the system's) strengths and weaknesses will automatically flag capacity development needs, opportunities for change and structural constraints, all of which will ultimately inform the assessment team's final conclusions and recommendations.

As a first analytical exercise, the team is encouraged to list individually on cards – based on memory, the 3-5 most relevant subjectively-perceived strengths and weaknesses of the overall DRM system, combining their views and impressions of the national, district and community levels.

Table 6.1 can then be used as a framework for documenting more systematically strengths and weaknesses across thematic areas and system sub-components. This DRM Guide has proposed a range of specific indicators in Tables 3.2, 4.2 and 5.2 to assess/

TABLE 6.1

The DRM system's strengths, weaknesses, opportunities and threats across government levels

Thematic Areas[37]	SWOT	National Level	District Level	Community Level
Disaster risk assessment	S			
	W			
	O			
	T			
DRM planning and monitoring	S			
	W			
	O			
	T			
Disaster mitigation and prevention	S			
	W			
	O			
	T			
Mainstreaming DRM into development planning	S			
	W			
	O			
	T			
Other thematic areas as presented in Tables 3.2, 4.2, 5.2.	S			
	W			
	O			
	T			

37 Adapted from UN/ISDR. 2007. *Words into Action: a guide for implementing the Hyogo Framework*. New York.

monitor the existence and functionality of a range of key aspects of a DRM system. These indicators should be used as a tool for identifying the strengths and weaknesses (gaps) in this analytical exercise.

The findings of the strengths and weaknesses analysis should be integrated/overlaid visually with the institutional mapping diagram. Points/areas of strength could be marked, for instance, by a green circle or flag, whereas points/areas of weakness would be marked in red. This will provide a visual tool to show on what strengths the DRM system can build upon and also to flag where the system may need support or further development in the future.

It is suggested that the team also documents systematically any findings that provide opportunities/entry points to further improve the existing DRM system or that appear to be potential threats to the effective functioning or development of a comprehensive DRM system:

■ *identified opportunities:* provide an indication of the available resources to capitalize on (people, knowledge, technology) and provide a good basis for the team to formulate its recommendations, and

■ *identified threats:* usually outline existing risks to the functioning of the system; the team can implicitly take account of the threats to inform its strategic decisions in terms of how the recommendations are finally shaped and presented.

Thus, both the opportunities and threats will provide the basis for the team's formulation of specific recommendations as part of its overall reporting.

STEP 4: VALIDATING THE STATUS QUO OF THE EXISTING DRM INSTITUTIONAL SYSTEM

It is suggested that drawing on the documented strengths and weaknesses the assessment team undertake a qualitative valuation exercise that describes the degree to which the DRM system (sub)components are in place and functional. This can be carried out separately for each institutional layer, and subsequently for the overall system. The following set of qualitative statements can facilitate a qualitative validation of the institutional *status quo* needed to promote risk reduction and management (the proposed levels have been adapted and consolidated from several sources).[38]

Level 1. Little awareness of the DRM issues or motivation to address them: Actions limited to crisis response. Institutional and organizational structures to address DRM are not or are only partly in place.

Level 2. Awareness of the importance of DRM issues and willingness to address them: Basic institutional structures are put in place, however fragmented and their capacity to act (knowledge and skills, human, material and other resources) remains limited. Interventions tend to be one-off, piecemeal and short-term.

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38 ISDR. 2007. *Words into Action: a guide for implementing the Hyogo Framework; Tearfund. 2005. Mainstreaming disaster risk reduction: a tool for development organisations;* DFID. 2007. DRR Inter-Agency Coordination Group, *Characteristics of a Disaster-Resilient Community: A Guidance Note.*

Level 3.DRM is addressed and is being proactively developed: Basic institutional and organizational DRM structures and regulations are in place at all levels. Capacities to act exist. Cross-sectoral coordination mechanisms are limited in scope but not very effective. Practical implementation measures to establish a coherent DRM system covering national, district and local levels also remain limited in functional terms.

Level 4. Coherent and integrated DRM system: Structures and capacities for DRM are in place at all levels including basic cross-sectoral coordination and collaboration. Interventions are extensive, covering all major aspects of a DRM system, and they are linked to the country's long-term development strategy. Interventions are frequent and provide long-term perspectives.

Level 5. A 'culture of safety' exists among all stakeholders: DRM is embedded in all relevant policy, planning, practice, attitudes and behaviour.

In countries where there is still little awareness of DRM issues (Level 1) it might be difficult to engage directly with government counterparts. In this case, NGOs and research institutions may need to develop partnerships for advocacy and awareness-raising purposes. Levels 2 and 3 indicate a relatively supportive institutional environment associated with relevant capacities and technical skills. Levels 4 and 5 imply that these components of the DRM system are self-sustaining. Champions and key stakeholders active in DRM systems or components of systems operating at these levels could make a valuable contribution to efforts to enhance collaboration and partnerships with the "weak parts" of the system.

STEP 5: ASSESSING THE RESULTS OF THE DRM SYSTEM ANALYSIS IN THE CONTEXT OF MONITORING PROGRESS IN THE IMPLEMENTATION OF THE HYOGO FRAMEWORK FOR ACTION

The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA) adopted by the 2005 Conference on Disaster Reduction sets as the objective for the international community "the substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries". It also sets out the five "priorities for action" adopted by the Conference to achieve this objective by 2015 and provides a detailed set of key activities under each priority for action to be implemented, as appropriate, according to countries' circumstances and capacities.[39] These priorities for action are to:

1. Ensure that disaster risk reduction 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.

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39 For more see: http://www.unisdr.org/eng/hfa/hfa.htm

4. Reduce the underlying risk factors.

5. Strengthen disaster preparedness for effective response at all levels.

Table 6.2, which has been adapted from ISDR work, is designed to facilitate the monitoring of progress in implementing at national, district and community levels the risk reduction measures contained in the Hyogo priorities for action. The columns of the table represent the status of progress in implementing risk reduction measures *within* governance levels; the rows reflect progress across governance levels. The ISDR indicators represent targets of what is perceived by ISDR as globally relevant attributes of a disaster resilient society.

The ISDR indicators are proposed as a reference tool. However, since they are generic and qualitative by nature, the assessment team may wish to adjust them to reflect country-specific contexts and the scope of the assessment. For example, in countries with high levels of progress and relatively good capacities for data collection and monitoring, qualitative indicators could be combined with the use of quantitative indicators.

In any case, the assessment team must be aware of the fact that levels of progress in achieving the targets will also vary within a country according to the sector, the hazard and the geographical area. Early warning systems might, for example, be in place for floods and tropical storms but not for drought. They might cover coastal but not inland areas or be targeted to urban rather than rural areas. Furthermore, the level of progress between different geographical areas within a country may be substantially different, particularly in countries where DRM functions have been decentralized.

STEP 6: PRESENTATION OF FINDINGS AND RECOMMENDATIONS

The analytical steps described above should provide the basis for an analytical discussion in the final report of the consolidated findings of the assessments undertaken at the three institutional levels and for formulating the main conclusions and recommendations. These should also be presented in the final report. As indicated in the introductory chapter, the scope of this Guide covers institutional assessments related to:

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

Which ever of the above purposes a specific assessment has, the team will have to prepare a technical report which includes recommendations. It is self evident that it is impossible to elaborate within a guide of this nature ways of analysing and presenting all types of findings, since they will be highly situation- and context-specific. Possible

TABLE 6.2

Country progress in implementing risk reduction measures [40]

Thematic Areas	ISDR indicators[41]	National level	District level	Community level
Institutional framework[42]	A legal framework for DRM exists with explicit responsibilities defined for all levels of government.			
	Multi-sectoral platforms for DRM are operational across levels.			
	A national policy framework for DRM exists that requires plans and activities at all administrative levels.			
	Adequate resources are available to implement DRM plans at all administrative levels.			
Risk assessment and early warning[43]	Risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.			
	Systems are in place to monitor, maintain and disseminate data on key hazards and vulnerabilities.			
	Early warning systems are in place for all major hazards.			
	Early warnings reach and serve people at the community level.			
Education[44] and awareness raising	Public awareness strategies for DRM exist and are implemented with vulnerable communities.			
	School curricula include DRM elements and instructors are trained in DRM.			
Reducing risks in key sectors [45]	Environmental protection, natural resource management (land and water) and climate change policies include DRM elements.			
	Sectoral development plans (agriculture, water resources, health, environment, forestry, tourism, industry etc.) include DRM elements.			
	Land-use zoning and plans, building codes and safety standards exist and include disaster risk-related elements which are rigorously enforced.			
	Technology options for DRM are available and applied.			
	A long-term national programme is in place to protect critical infrastructure from common natural hazards.			
	A procedure is in place to assess the disaster risk implications of major infrastructure and development project proposals.			
Disaster preparedness and response[46]	An independent assessment of disaster preparedness capacities and mechanisms has been undertaken and the responsibility for the implementation of its recommendations has been assigned and resourced.			
	Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.			
	All organizations, personnel and volunteers responsible for maintaining preparedness are equipped and trained for effective disaster preparedness and response.			
	Financial reserves and contingency mechanisms are in place to support effective response and recovery.			
	Procedures are in place to document experience during hazard events and disasters and to undertake post-event reviews.			

40 Proposed assessment categories: G: Good; S: Satisfactory; I: Inadequate; P/NE: Poor/Non Existent
41 Adapted from UN/ISDR. 2007. *Words into Action: a guide for implementing the Hyogo Framework.*
42 Refers to the Monitoring sheets, section 2.
43 Refers to the Monitoring sheets, sections 1 and 6.
44 Refers to the Monitoring sheets, section 5.
45 Refers to the Monitoring sheets, sections 3 and 4.
46 Refers to the Monitoring sheets, sections 7 to 11.

recommendation areas are also numerous and may include among others: proposals for sector and policy reform, project formulation, and the design of training and capacity-building programmes. Nonetheless, the generic analytical steps proposed in this Guide will significantly facilitate the drafting of the technical report and formulation of key recommendations. More specifically, the SWOT analysis proposed in Table 6.1 can serve as a useful tool to identify:

- weaknesses which can be translated into capacity development needs and should be reflected in the recommendations as core issues to be addressed in the follow-up (what needs to be done)
- strengths which inform the recommendations by providing examples of effective coordination, planning and implementation mechanisms and lessons learned (how to do it)
- opportunities which should be reflected in the recommendations together with an indication of the available resources to capitalize on (people, knowledge, technology)
- threats which can be either included explicitly in the final report by outlining the risks and implications associated with the recommendations or they can implicitly inform the team's strategic decisions regarding the choice and presentation of its recommendations.

Some issues to take into consideration while preparing the draft recommendations are to:

- consider the drivers as well as the constraints to change
- look for stakeholders and partners for implementation
- consider the inputs and resources needed
- identify champions who can lead the follow-up process

While writing the report the team should keep firmly in mind the fact that institutional studies and capacity assessments are sensitive processes, often causing scepticism among those assessed. Furthermore, capacity development needs to be an internally-driven process to succeed. Unless key governmental institutions fully recognize the need for embarking on such a process of change, recommendations will not be translated into action. The team should therefore discuss their draft recommendations with key government counterparts and stakeholders before finalizing them, either within a multi-stakeholder workshop or by circulating a draft report for subsequent discussion in bilateral meetings.

REFERENCES

Baas, S., Erdenebatar, B. & Swift J. 2001. Pastoral Risk Management for Disaster Prevention and Preparedness in Central Asia - with special reference to the case of Mongolia; *In Proceedings of the International FAO Asia-Pacific Conference on Early Warning, Prevention, Preparedness and Management of Disasters in Food and Agriculture,* held in Thailand, May 2001. APDC/01/6.

CRED. 2007. The data source - EM-DAT, available at www.em-dat.net.

DFID. 2007. DRR Inter-Agency Coordination Group, *Characteristics of a Disaster-Resilient Community: A Guidance Note*. London.

FAO. 2003. *Local institutions and livelihoods: Guidelines for Analysis* by N. Messer and P. Townsley. Rome.

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.

FAO. 2005. *Rapid guide for missions: Analysing local institutions and livelihoods,* by A. Carloni. Rural Institutions and Participation Service (SDAR). Rome.

Liu Y. & Baas S. 2001. *Strengthening pastoral institutions in North-West China pastoral area to access improved extension services for risk management and poverty alleviation.* (available at www.fao.org/sd/2001/IN0601_en.htm).

Swift, J. & Baas, S. 2003. *Managing Pastoral Risk in Mongolia - A Plan of Action.* ProjectTCP/FAO/MON0066.FAO.Rome. (available at www.fao.org/docrep/009/ ah828e/ah828e00.htm).

Tearfund. 2005. *Mainstreaming disaster risk reduction: a tool for development organisations* by S. La Trobe and I. Davis. Teddington, Middlesex.

UN/ISDR. 2004. *Living with Risk: A global review of disaster reduction initiatives.* 2004 Version, Volume 1. Geneva.

UN/ISDR. 2004. *Living with Risk: A global review of disaster reduction initiatives.* 2004 Version, Volume II Annexes. Geneva.

UN/ISDR. 2005. *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disaster* (available at www.unisdr.org/eng/hfa/hfa.htm).

UN/ISDR. 2007. *Words into Action: a guide for implementing the Hyogo Framework.* Geneva.