

Characteristics of a Disaster-resilient Community

A Guidance Note



Version 1 (for field testing)

August 2007

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for the DFID Disaster Risk Reduction
Interagency Coordination Group

An electronic version of this guidance note can be downloaded from the Benfield UCL Hazard Research Centre website. Go to http://www.benfieldhrc.org/disaster_studies/projects/communitydrindicators/community_drr_indicators_index.htm

The guidance note has also been translated into Spanish by Diego Bunge. It is available from the same web page.

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Foreword

The development of the 'Characteristics of a Disaster-Resilient Community' has been commissioned by a group of six agencies – ActionAid, Christian Aid, Plan UK, Practical Action and Tearfund, together with the British Red Cross/International Federation of Red Cross and Red Crescent Societies. In recent years, these agencies have received funding from the UK Department for International Development (DFID) for disaster risk reduction (DRR) initiatives and to support the promotion of the Hyogo Framework for Action (HFA), particularly at local level. However, when discussing how to monitor the success of the implementation of the HFA, it became apparent that there was nothing to measure its impact at the community level.

At a British Overseas NGOs for Development (BOND) DRR Group meeting on monitoring and evaluation facilitated by John Twigg in November 2006, the DFID-funded group (known as the DFID DRR Interagency Coordination Group) discussed the opportunity to define jointly what a disaster-resilient community actually looked like; and how indicators could be developed from there. Subsequently, John Twigg and a support team were employed on a consultancy basis to identify basic characteristics of community resilience that can complement national and international-level work led by the UN ISDR and OCHA. This initiative has now reached a stage where we have a fairly comprehensive multi-hazard/multi-context set of characteristics. While we were initially daunted by its volume, we recognised that these characteristics described 'utopia' – what we would like all communities to look like if the HFA was effectively implemented. It is now our task, as a group of agencies, to pilot those characteristics that are particularly relevant to our work, possibly to further refine and narrow the volume, or maybe just to critique the current content. Either way these characteristics are a work in progress.

To that end, we would like to invite you to join us in our task of piloting. Each agency is taking a different approach to how it is using the characteristics; some to define future project design, some to develop step-by-step indicators and others taking a select few characteristics to measure work which has already been carried out. Please take the guidelines and adapt the characteristics for use within your circumstances. All we would ask is that you keep John Twigg (j.twigg@ucl.ac.uk) informed of progress or use of the characteristics within your organisation, as all feedback will be gratefully received.

As a group of agencies, we make no apologies about being passionate that community-based DRR is fundamental to reducing risk and the impact of disasters. We also have to express our concern that no binding targets or commitments have been set by governments for governments through the Hyogo process. As a result we want to offer this contribution to the DRR community as a step towards measuring the success of the Hyogo Actions. We do hope you will join us in the next stage of field trial and application, and we look forward to sharing our individual agency results with others.

Oenone Chadburn
Tearfund and Chair of BOND DRR Group
August 2007

Abbreviations and Acronyms

ADPC	Asian Disaster Preparedness Center
CBDRM	community-based disaster risk management
CBO	community-based organisation
CSO	civil society organisation
DP	disaster preparedness
DRM	disaster risk management
DRR	disaster risk reduction
EW	early warning
EWS	early warning system
HFA	Hyogo Framework for Action
IFRC	International Federation of Red Cross and Red Crescent Societies
ISDR	UN International Strategy for Disaster Reduction
M&E	monitoring and evaluation
NGO	non-governmental organisation
OCHA	UN Office for Coordination of Humanitarian Affairs
PTSD	post-traumatic stress disorder
UN	United Nations
VCA	vulnerability and capacity assessment/analysis

Acknowledgements

I am grateful to the following members of the Interagency Coordination Group who provided guidance on the process, commented on drafts and forwarded comments from other staff and partners: John Abuya, Yasmin McDonnell (ActionAid), Robert Roots (British Red Cross), Bina Desai, Sarah Moss, José Luis Penya (Christian Aid), Nick Hall, Douglas Orr (Plan International), Pieter van den Ende (Practical Action), Oenone Chadburn, Bob Hansford, Angela Mugore, Marcus Oxley (Tearfund).

Professor Jo Beall (London School of Economics) acted as adviser to the project, providing a broader, more developmental perspective to the work. Emily Wilkinson (University College London) helped with the research for Table 1 and provided comments, based on her PhD research on local governance and DRR.

I was very fortunate in being able to commission a survey of expert opinion on the 'knowledge and education' characteristics, which was carried out most ably by Marianne Liebmann and Sara Pavanello as part of their MSc Development Management course at the London School of Economics (see Further Reading).

Many other colleagues and experts kindly provided me with information and advice on resilience and indicators during the course of this project. They include: Paola Albrito, Bob Alexander, David Alexander, Ali Asgary, Mihir Bhatt, Philip Buckle, Omar Cardona, Biswanath Dash, Ian Davis, Annelies Heijmans, Dan Henstra, Harry Jones, Ilan Kelman, Johan Minnie, Norah Niland, Warner Passanisi, Marla Petal, Ben Ramalingam, Claire Rubin, Azim Samjani, Walter Ubal Giordano, Natasha Udu-gama, Lorna Victoria, Ben Wisner and Malaika Wright.

Particular thanks are due to the Department for International Development (DFID), for supporting DRR work by the Interagency Coordination Group, and to Olivia Coghlan and Rowshan Hannan of DFID for their support and advice during this project.

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Section A: Introduction and Background

1. Introduction

This guidance note is for government and civil society organisations working on disaster risk reduction (DRR) initiatives at community level, in partnership with vulnerable communities.

It shows what a ‘disaster-resilient community’ might consist of, by setting out the many different elements of resilience. It also provides some ideas about how to progress towards resilience.

The version of the guidance note you are reading is a pilot version, based on a desk study and discussions with experts. This is now being tested in the field and it will be revised in the light of those experiences. Everyone is welcome to use the note, and feedback is similarly welcome.

1.1 Applications

The guidance note is a resource, not a manual. It is designed to support processes of community mobilisation and partnership for DRR.

Users can select relevant information and ideas from it to support their field work, according to their needs and priorities. This should be the result of discussion between communities and the organisations working with them.

The note can be used at different stages of project cycle management, particularly in planning and assessment, and monitoring and evaluation. It can also be linked to other tools used in DRR projects and research (e.g. vulnerability and capacity analysis).

Much of the information here relates to community capacities in DRR. The guidance note may therefore be useful in assessing, planning or reviewing work that focuses on capacity-building.

The findings of reviews and assessments carried out using this note may also have some value in advocacy work at local and higher levels.

1.2 How the guidance note is organised

The main section of the guidance note is a series of tables setting out the characteristics of a disaster-resilient community. These are organised under thematic headings that represent the main areas of DRR intervention. The themes are broadly based on a framework developed by the UN International Strategy for Disaster Reduction (ISDR). This scheme has been followed because it is generally accepted by UN and other international agencies, most national governments and many NGOs (see Box 1 and Fig. 1). However, it has been modified in places in this guidance note.

The aim has been to provide a comprehensive list of characteristics of DRR, but users will probably identify additional characteristics when they test the guidance note in the field. It is hoped to include these in future editions.

The tables also indicate the main characteristics of the ‘enabling environment’ which is necessary for community-level initiatives to succeed.

It should be emphasised that the ‘disaster-resilient community’ is an ideal, for in reality no community can be free of risk. The tables present characteristics of this ideal state, not project output or outcome indicators in the conventional sense. But by combining various elements of resilience identified here, DRR project workers can greatly increase communities’ capacities to withstand hazard events.

Another important point to make is that the characteristics set out in this document are general ones for all contexts, whereas every project, location and community is unique. Those who use this guidance note will probably focus on those elements of resilience that are most appropriate to the conditions they are working in or to the kind of work that they do.

Box 1: The Hyogo Framework for Action and the main components of DRR

At the World Conference on Disaster Reduction in Kobe, Japan, in 2005, the international community signed up to a 10-year DRR strategy, the Hyogo Framework for Action (HFA).

The HFA sets out three strategic goals and outlines five priorities for action, which cover the main areas of DRR. It also suggests important areas for intervention within each theme (see Fig. 1).

On the basis of the HFA’s categories, two UN agencies have been developing DRR indicators, principally for the national level. ISDR is preparing guidance on indicators for priorities 1-4 and the Office for Coordination of Humanitarian Affairs (OCHA) is preparing guidance on indicators for priority 5 (see Further Reading).

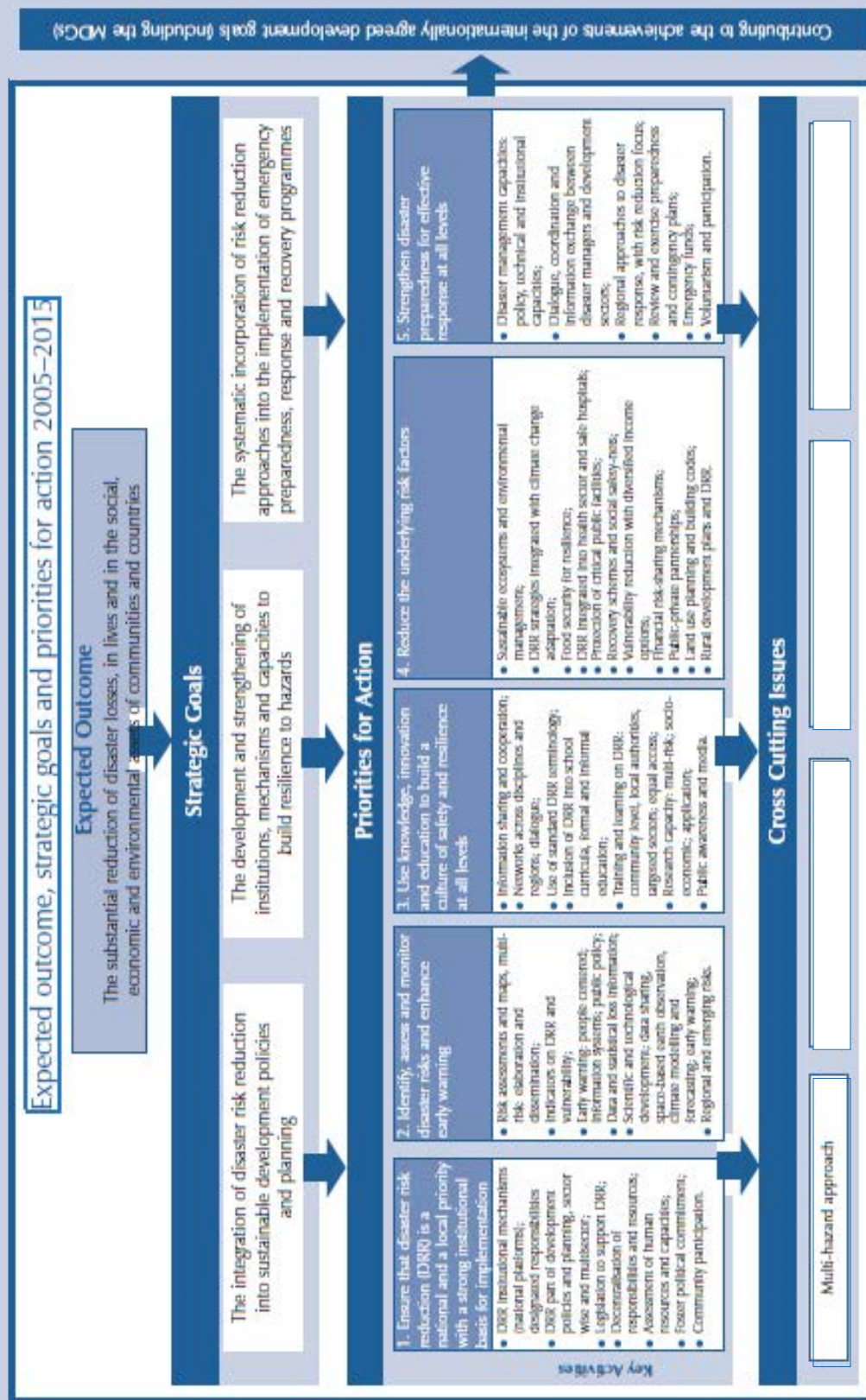
2. Key Concepts

Three concepts are central to this guidance note: DRR, resilience and community. It is important to think about what these mean before using the tables of characteristics.



United Nations
International Strategy for Disaster Reduction

Summary of the Hyogo Framework for Action 2005–2015: *Building the Resilience of Nations and Communities to Disasters*



DRR = disaster risk reduction

www.unisdr.org

Fig. 1: Hyogo Framework for Action
Diagram courtesy of UN International Strategy for Disaster Reduction

2.1 Disaster risk reduction

Disaster risk reduction (DRR) is a broad and relatively new concept. There are different definitions of the term in the technical literature but it is generally understood to mean the broad development and application of policies, strategies and practices to minimise vulnerabilities and disaster risks throughout society.¹

DRR is a systematic approach to identifying, assessing and reducing the risks of disaster. It aims to reduce socio-economic vulnerabilities to disaster as well as dealing with the environmental and other hazards that trigger them. It is the responsibility of development and relief agencies alike and it should be an integral part of the way such organisations do their work, not an add-on or one-off action. DRR is very wide-ranging, therefore. There is potential for DRR initiatives in just about every sector of development and humanitarian work.

No single group or organisation can address every aspect of DRR. DRR thinking sees disasters as complex problems demanding a collective response from different disciplinary and institutional groups – in other words, partnerships. This is an important consideration when looking at the characteristics of a disaster-resilient community, because individual organisations will have to decide where to focus their own efforts and how to work with partners to ensure that other important aspects of resilience are not forgotten. Note that the tables in this guidance note are intended as a resource for a range of organisations working at local and community level, collectively or individually: certain elements of resilience may be more relevant to some organisations and contexts than others.

2.2 Resilience and the disaster-resilient community

Many attempts have been made to define ‘resilience’. The variety of academic definitions and concepts can be confusing. For operational purposes it is more useful to work with broad definitions and commonly understood characteristics. Using this approach, system or community resilience can be understood as:

- capacity to absorb stress or destructive forces through resistance or adaptation
- capacity to manage, or maintain certain basic functions and structures, during disastrous events
- capacity to recover or ‘bounce back’ after an event

‘Resilience’ is generally seen as a broader concept than ‘capacity’ because it goes beyond the specific

behaviour, strategies and measures for risk reduction and management that are normally understood as capacities. However, it is difficult to separate the concepts clearly. In everyday usage, ‘capacity’ and ‘coping capacity’ often mean the same as ‘resilience’.

A focus on resilience means putting greater emphasis on what communities can do for themselves and how to strengthen their capacities, rather than concentrating on their vulnerability to disaster or their needs in an emergency.

The terms ‘resilience’ and ‘vulnerability’ are opposite sides of the same coin, but both are relative terms. One has to ask what individuals, communities and systems are vulnerable or resilient to, and to what extent.

Like vulnerability, resilience is complex and multi-faceted. Different features or layers of resilience are needed to deal with different kinds and severity of stress.

The ‘disaster-resilient community’ is an ideal. No community can ever be completely safe from natural and man-made hazards. It may be helpful to think of a disaster-resilient or disaster-resistant community as ‘the safest possible community that we have the knowledge to design and build in a natural hazard context’,² minimising its vulnerability by maximising the application of DRR measures. DRR is therefore the collection of actions, or process, undertaken towards achieving resilience.

2.3 Community

In conventional emergency management, communities are viewed in spatial terms: groups of people living in the same area or close to the same risks. This overlooks other significant dimensions of ‘community’ which are to do with common interests, values, activities and structures.

Communities are complex and they are often not united. There will be differences in wealth, social status and labour activity between people living in the same area, and there may be more serious divisions within the community. Individuals can be members of different communities at the same time, linked to each by different factors such as location, occupation, economic status, gender, religion or recreational interests. Communities are dynamic: people may join together for common goals and separate again once these have been achieved.

These factors make it difficult to identify clearly the ‘community’ one is working with. From a hazards perspective, the spatial dimension is an essential element in identifying communities at risk, but this

¹ The term ‘disaster reduction’ is often used to mean much the same thing. ‘Disaster risk management’ is also sometimes used in this way, although it is normally applied specifically to the practical implementation of DRR initiatives.

² Geis DE 2000, ‘By Design: the Disaster Resistant and Quality-of-Life Community’. *Natural Hazards Review* 1(3): 152.

must be linked to an understanding of the socio-economic differentiations, linkages and dynamics within the area at risk, not only to identify vulnerable groups but also to understand the diverse factors that contribute to vulnerability. Community businesses, services and infrastructure must also be taken into account.

Communities do not exist in isolation. The level of a community's resilience is also influenced by capacities outside the community, in particular by emergency management services but also by other social and administrative services, public infrastructure and a web of socio-economic and political linkages with the wider world. Virtually all communities are dependent on external service providers to a greater or lesser extent. The 'enabling environment' sections in the tables try to capture some of these influences.

Section B: Using the Tables

The guidance note contains a set of five tables setting out the ‘characteristics of a disaster-resilient community’.

Each table covers a different thematic area relating to resilience and DRR. The five thematic areas are based on those in the Hyogo Framework for Action and are intended to cover all aspects of resilience.

Table	Thematic area
1	Governance
2	Risk assessment
3	Knowledge and education
4	Risk management and vulnerability reduction
5	Disaster preparedness and response

Each thematic table is divided into three sections (columns):

Components of resilience	Characteristics of a resilient community	Characteristics of an enabling environment
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The following pages contain suggestions about how each part of the tables might be used and discussions of issues relating to their application.

One point to note here is that some aspects of resilience may belong to more than one of the themes and components and may therefore be repeated in different tables.

1. Components of Resilience

The thematic areas are very broad. Each area of resilience is therefore subdivided into a set of its main components. Because the scope of each thematic area varies, the number and range of components differs from one thematic area to another. The table on page 9 lists the components of resilience for each thematic area.

As a first step, it may be useful to consider these main components of resilience. An organisation might look at these as part of a basic ‘mapping’ or ‘scoping’ exercise to identify:

- which main areas of resilience or DRR it, and other agencies, are currently addressing in a particular community or district
- where the current emphasis is in their interventions
- any major gaps in coverage or missing links between DRR components

The findings of this review could contribute to discussions about the focus of future work.

It is extremely unlikely that a single organisation will be working in all of the relevant areas. It is probably not advisable that it should, since specific technical expertise is required in many cases. Where an organisation’s own expertise lies in one particular field (e.g. disaster preparedness, livelihood support, education), it will usually want to build on its existing strengths. But a mapping or scoping exercise will enable it to consider if it should be involved in other relevant aspects of DRR and resilience that might support its current work or help to increase its impact.

For example, an organisation with expertise in hazard and risk assessment or vulnerability analysis (which comes under Thematic area 2: Risk assessment) might want to make sure that the results of its work are being shared and applied effectively, which might cause it to think about becoming involved in public information work (an aspect of Thematic area 3: Knowledge and education) and early warning systems (Thematic area 5: Disaster preparedness and response).

As another example, an organisation focusing on technologies for DRR such as safe buildings and flood and landslide control measures (part of Thematic area 4: Risk management and vulnerability reduction) would probably need to be involved in discussions about building codes, land-use regulations and other legislative provisions (Thematic area 1: Governance) that might affect its initiatives, as well as in providing technical training to community members (Thematic area 3: Knowledge and education).

Thematic area 1 (Governance) is really a cross-cutting theme underlying the other thematic areas. Planning, regulation, integration, institutional systems, partnerships and accountability are relevant to everyone, because they are issues likely to affect any initiative in DRR, development or relief. Users are therefore advised to refer to these governance aspects whatever the thematic areas they are focusing on.

A scoping or mapping exercise of this kind may be particularly helpful in multi-stakeholder settings. It can indicate gaps in agencies’ collective coverage and highlight potential for new or stronger collaboration on specific issues. Partnerships between different institutions and the collective application of different kinds of technical expertise are important to the success of DRR.

Thematic area	Components of resilience
1 Governance	● Policy, planning, priorities and political commitment. ● Legal and regulatory systems ● Integration with development policies and planning ● Integration with emergency response and recovery ● Institutional mechanisms, capacities and structures; allocation of responsibilities ● Partnerships ● Accountability and community participation
2 Risk assessment	● Hazards/risk data and assessment ● Vulnerability and impact data and assessment ● Scientific and technical capacities and innovation
3 Knowledge and education	● Public awareness, knowledge and skills ● Information management and sharing ● Education and training ● Cultures, attitudes, motivation ● Learning and research
4 Risk management and vulnerability reduction	● Environmental and natural resource management ● Health and well being ● Sustainable livelihoods ● Social protection ● Financial instruments ● Physical protection; structural and technical measures ● Planning régimes
5 Disaster preparedness and response	● Organisational capacities and coordination ● Early warning systems ● Preparedness and contingency planning ● Emergency resources and infrastructure ● Emergency response and recovery ● Participation, voluntarism, accountability

2. Characteristics of a Resilient Community

For each component of resilience, the tables provide a set of characteristics of a resilient community. Again,

the number of characteristics varies according to the nature of the component. Here is an example of one component of resilience with its related characteristics of a resilient community:

Thematic area 2: Risk assessment	Characteristics of a resilient community
Component of resilience 1: Hazards/risk data and assessment	● Community hazard/risk assessments carried out which provide comprehensive picture of all major hazards and risks facing community (and potential risks). ● Hazard/risk assessment is participatory process including representatives of all sections of community and sources of expertise. ● Assessment findings shared, discussed, understood and agreed among all stakeholders, and feed into community disaster planning. ● Findings made available to all interested parties (within and outside community, locally and at higher levels) and feed into their disaster planning. ● Ongoing monitoring of hazards and risks and updating of assessments. ● Skills and capacity to carry out community hazard and risk assessments maintained through support and training.

2.1 Applications

The characteristics can be used at various stages of the project cycle and for different purposes. The following are likely to be the main applications:

- Baseline studies of the level of resilience in a community.
- Vulnerability and capacity analysis.
- Project planning, especially in identifying indicators for logical and results-based planning frameworks.
- Monitoring and evaluation (of individual projects and for comparative analysis of projects)

2.2 Selecting characteristics; setting priorities

Identification and selection of relevant characteristics is essential but not necessarily easy. The complete set of characteristics is intended to represent an ideal state of resilience – in other words, a community that exhibits all of the characteristics under all of the headings (themes and components) would have attained the highest possible level of safety. Similarly, DRR requires a co-ordinated and comprehensive approach in which progress in one area needs to be matched by comparable progress in others.

However, as the ideal state of resilience will always remain beyond our grasp, organisations will need to select those characteristics that are most relevant to the communities they are working with, and the type of DRR work they are involved in; and they will seek aims that are realistic in the context of a particular project. This also depends on the capacities of individual organisations and their scale of operation.

Not all elements of resilience are necessarily of equal importance, although there are no universally agreed priorities for resilience or DRR. The importance of each characteristic to a given project depends on the specific location, time and circumstances (including different hazard types). The selection process should take this into account and reach clear decisions about priorities, recognising that this may involve some compromises. This process should be open. The characteristics will be most useful (and most used) when they are selected by, or at least with, those who need to use them. This means comprehensive participatory processes of discussion and validation at local level, which may also identify additional characteristics of resilience.

One way of narrowing the scope of characteristics is to consider only actions that are intended

specifically to reduce disaster risk. This is the basis of the concept of ‘invulnerable development’, which is development directed towards reducing vulnerability to disaster, comprising ‘decisions and activities that are intentionally designed and implemented to reduce risk and susceptibility, and also raise resistance and resilience to disaster’.³

Users of this guidance note should be aware that there is a degree of ambiguity regarding exactly who a given characteristic may apply to – and hence, who should take appropriate action. For instance, a characteristic such as ‘shared vision of a prepared and resilient community’ begs the question: who is supposed to share in this vision? All of the characteristics are intended to be applicable to communities and their members (remembering that communities are not homogeneous) but some could also apply to groups and organisations working among the community, such as local NGOs and perhaps even local government agencies or extension workers. For the most part, these external agencies and their capacities have been placed within the ‘enabling environment’ part of the framework (see below). However, since the boundaries between communities and the enabling environment cannot always be drawn exactly, and external agencies have an important role to play in community welfare and development, this matter may sometimes require discussion and decision in the field.

2.3 Characteristics and indicators

The characteristics set out in the tables are not project indicators in the conventional sense. It is important to recognise this. They characterise an ideal state of resilience in quite general terms, whereas individual projects will need their own specific and more detailed indicators of achievement.⁴

The distinction between characteristics and indicators is not rigid, however. Some characteristics are equivalent to the ‘outcome’ indicators used in project evaluation because they represent an end state resulting from DRR interventions. Others are closer to ‘output’ indicators because they represent DRR activities that must be carried out or measures that must be put in place if resilience outcomes are to be achieved. If an organisation or project is using the tables for monitoring and evaluation (M&E), it may choose to regroup some of the characteristics in this way. (See also the discussion below on milestones.)

³ McEntire DA 2000, ‘Sustainability or invulnerable development? Proposals for the current shift in paradigms’. *Australian Journal of Emergency Management* 15(1): 58-61.

⁴ The ISDR and OCHA guidance on indicators explain indicators and indicator selection in detail. ADPC’s guidelines on community-based disaster risk management contain helpful information on developing DRR indicators at community level (see Further Reading).

2.4 Composite characteristics

Some characteristics are composites of individual characteristics – for example:

[hazard/risk] assessment findings shared, discussed, understood and agreed among all stakeholders, and feed into community disaster planning.

This contains two main elements: (1) sharing, discussion, understanding and agreement about assessment findings among all stakeholders; (2) assessment findings feed into community disaster planning. The first main element can also be split into four more particular elements: sharing, discussion, understanding and agreement. One reason for aggregating characteristics in this way is to make this document more manageable: without it, the tables would be extremely long. But this has only been done where the different characteristics are strongly linked to one another. In practice, and depending on what purpose they are using the tables for, organisations may wish to disaggregate some of the characteristics.

2.5 Quantitative versus qualitative characteristics

The characteristics set out in these tables are qualitative. Communities and their partners therefore need to make their own judgements about whether or not certain aspects of resilience have been achieved. Some of these will be more straightforward than others. For instance, it is easy to tell if a community disaster preparedness or contingency plan exists (even if its quality is another matter). But it is much harder to decide if there is an equitable distribution of wealth and livelihood assets in a community, or the adequacy of access to common property resources that can support coping strategies during crises.

The guidance note cannot tell projects and communities how they should reach these judgements. They are matters for collective agreement between the stakeholders. The conclusions will be different in each case, according to context and expectations, and there will be a fair amount of subjective judgement. But in every case the process for reaching decisions must be transparent and participatory.

Some guidelines and experts have suggested the need for quantitative indicators of certain aspects of DRR (e.g. the number of volunteers trained in first aid,

the percentage of households in a community with property insurance). It is impossible to fix standard quantitative measures that can be applied to every context but quantitative indicators can be used at an individual project level, if required. In such cases, they could form part of the data on which the broader judgements about attainment of characteristics of resilience are based. It is for individual project teams to decide what kinds of quantitative indicator are appropriate and what levels of attainment to set.

3. Characteristics of an Enabling Environment

In this guidance note, the focus is on communities and local organisations (although individual and household resilience is incorporated in the tables to some extent). However, the framework acknowledges the importance of wider institutional, policy and socio-economic factors in supporting community-level resilience.

The tables identify the main elements of this 'enabling environment'⁵ in relation to each component of resilience. They are less detailed than the characteristics of community resilience. Most are taken from the national-level DRR indicator frameworks being developed by UN ISDR and UN OCHA (see Further Reading).

The following table (on page 12) illustrates how this works for one component of resilience. Note that it includes local and national level characteristics. Elsewhere in the tables, international dimensions of the enabling environment are also sometimes included.

People who work on community resilience need to be conscious of the enabling environment and the effect it may have on their work, but they cannot be expected to analyse it in detail. An individual project will probably undertake a quick, subjective assessment of the enabling environment. However, an organisation working on a number of community projects in a particular country – e.g. a national or international NGO – may wish to carry out a more thorough assessment to inform its work or to support advocacy.

Many features of the ideal enabling environment will be missing in many cases. In some situations the lack of key components of support may be so great that it creates what may be called a 'disabling'

5 The term 'enabling environment' is borrowed from the All India Disaster Mitigation Institute. See 'The Need for a More Nuanced View of Local Capacity and the Support Approaches of Outsiders'. *southasiadisasters.net* 2006 #18 (August), p.4. <http://www.southasiadisasters.net/publication.htm> The IFRC's ongoing work on local-level DRR indicators uses a C-I-T categorisation to consider this (where C = issues the community can change; I = issues the community can influence to find solutions; T = issues where the community recognises that transformation will take a long time and is out of their hands): Barrena I 2007, 'Indicators: A guide to find simple indicators for risk reduction projects at local level'. (Geneva: IFRC, unpublished draft report).

Thematic Area 1: Governance	Characteristics of enabling environment
Component of resilience 1: DRR policy, planning, priorities and political commitment	● Political consensus on importance of DRR ● DRR a policy priority at all levels of government. ● National DRR policy, strategy and implementation plan, with clear vision, priorities, targets and benchmarks. ● Local government DRR policies, strategies and implementation plans in place. ● Official (national and local) policy and strategy of support to CBDRM. ● Local-level official understanding of and support for community vision.

environment for local-level initiatives. Users of the guidance note will therefore have to base their plans on realistic assessments of the type and level of external support they can expect.

4. Milestones

The indicator set 'characteristics of a disaster-resilient community' represents a goal: the highest level of resilience that is realistically attainable. Additional milestones are needed to measure improvements and progress towards the goal. However, there are

Box 2: Key indicators of community resilience

Some organisations and researchers are beginning to think about the most important indicators of resilience with a view to setting priorities for DRR interventions. No consensus has been reached on this but recent suggestions include the following:

ADPC: Indicators of a 'minimum level of resiliency'	Plan International: indicators of community resilience	Practical Action: key characteristics of a resilient community
● A community organisation ● A DRR and disaster preparedness plan ● A community early warning system ● Trained manpower: risk assessment, search and rescue, medical first aid, relief distribution, masons for safer house construction, fire fighting ● Physical connectivity: roads, electricity, telephone, clinics ● Relational connectivity with local authorities NGOs, etc. ● Knowledge of risks and risk reduction actions ● A community disaster reduction fund to	1. Governance: ● Extent and nature of access/presence/influence of children and other vulnerable groups (or groups that represent their interests) – to/in/over functions of governance at local, sub-national, national levels: ○ Policy ○ Legislative ○ Planning ○ Budgeting ○ Monitoring ● Awareness of community members of their rights ● Access of community members to legal and other avenues to enforce rights/provide redress (e.g. through linkages to legal rights NGOs, pro-bono lawyers) 2. Risk assessment: ● Existence and quality of community risk assessments and maps that are 'owned' by both community and government	● A community organisation such as a development/disaster management group, representing majority of people. Existing groups can be groomed for this role. ● A DRR and Disaster Preparedness plan (supported by local/central government) ● Early warning systems ● Trained persons – risk assessment, search and rescue, first aid, relief distribution, safer house construction, fire fighting; effective delivery system. ● Physical infrastructure – access to roads, electricity, phones, clinics, etc ● Linkages with local authorities, NGOs, humanitarian agencies, etc ● Knowledge and awareness of risks and risk reduction strategies ● Safer housing to withstand local hazards ● Safer/appropriate/more diverse sources of livelihoods including protection of assets most at risk. ● Access to resources for mitigation,

ADPC: Indicators of a 'minimum level of resiliency'	Plan International: indicators of community resilience	Practical Action: key characteristics of a resilient community
implement risk reduction activities ● Safer houses to withstand local hazards ● Safer sources of livelihoods	● Extent and quality of participation of vulnerable groups in development of community risk assessments and maps ● Extent to which vulnerability and risk analysis is incorporated in development planning 3. Knowledge and education: ● Awareness levels in the community, particularly children and vulnerable groups, of EWS ● Awareness levels in the community, particularly of children and vulnerable groups, of risks and risk reduction strategies 4. Risk management and vulnerability reduction: ● Extent and nature of social capital ● Health status ● Sustainable livelihoods/natural resource management ● Extent of climate change adaptation ● Food security ● Extent of diversity of livelihood options ● Extent to which DRR has been integrated into development planning ● Access to social protection mechanisms e.g. social insurance 5. Disaster preparedness and response: ● Existence and quality of early warning systems ● Existence, practice and revision of preparedness and contingency plans ● Extent and nature of participation of vulnerable groups in development, practice and revision of preparedness and contingency plans ● Extent and quality of linkages with local authorities, NGOs, etc. ● Extent of diversity of physical and communications infrastructure and assets, e.g. roads, boats, mobile phones, etc. ● Access to resources for mitigation, response and recovery activities	response and recovery activities
Source: ADPC 2006, <i>Critical Guidelines: Community-based Disaster Risk Management</i> (Bangkok: Asian Disaster Preparedness Center; www.adpc.net) p.25	Source: Plan International	Source: Practical Action

challenges in using these tables of characteristics to assess levels of progress from an existing state of resilience towards an ideal state of safety. Some characteristics may be used as output or process indicators (see above) but they cannot be applied as standard measures to the specific requirements of individual projects. Project partners will have to agree how to measure their own progress in each case. In doing so they will focus on those characteristics of resilience that they have chosen to work on, working out a process for moving from the current state towards the end state in each case, and agreeing indicators for different stages of progress along the way.

A more generic 'milestones' model may be useful for getting a better idea of the 'big picture' of progress towards resilience in a particular district or community. Like the mapping of thematic areas and components of resilience, this would probably be most useful as a multi-stakeholder exercise looking at the work of all groups and organisations involved in DRR. For this, a five-level scale is suggested, with each level marking a distinct stage in the development of DRR. This is a simple scale and should be easy to use. It is designed to be applied across all areas of resilience. It could be used to review progress towards resilience across all thematic areas, or in individual thematic areas. It may also be applicable to selected components of resilience, but not necessarily to all components.

- Level 1.** Little awareness of the issue(s) or motivation to address them. Actions limited to crisis response.
- Level 2.** Awareness of the issue(s) and willingness to address them. Capacity to act (knowledge and skills, human, material and other resources) remains limited. Interventions tend to be one-off, piecemeal and short-term.
- Level 3.** Development and implementation of solutions. Capacity to act is improved and substantial. Interventions are more numerous and long-term.
- Level 4.** Coherence and integration. Interventions are extensive, covering all main aspects of the problem, and they are linked within a coherent long-term strategy.
- Level 5.** A 'culture of safety' exists among all stakeholders, where DRR is embedded in all relevant policy, planning, practice, attitudes and behaviour.

It is assumed that groups and organisations using this tool for self-assessment will already have advanced beyond Level 1.

Level 5 approximates to the 'disaster-resilient community' ideal. The 'culture of safety' notion referred to here, which has been advanced by the UN system and others, goes beyond carrying out DRR activities because it implies deep-rooted behavioural change.⁶

Assessment of progress using this model would involve looking at the range of DRR or resilience issues being addressed, the number, type and range of resilience characteristics being achieved or worked towards, and – importantly – the level of coherence and co-ordination of efforts.

Assessments could be rapid or more intensive. They would have to be participatory, since agreement on the different levels would be based on largely subjective judgements.⁷

The milestones could be used as baselines at the start of a project to assess the level of achievement at that moment in time. Repeat assessments would indicate the extent of progress in DRR. However, it must be emphasised that many of these changes will only come about in the long term, especially where communities and supporting agencies have limited capacity and resources, and where there are competing priorities.

Application of this or similar methods would help to keep the overall picture in sight and would encourage greater coherence of activities and linkages between different groups and organisations involved.

5. Other Issues

The development of this guidance note is just one among several current and recent initiatives to improve the monitoring and evaluation of DRR, which has led to the production of several sets of indicators. Although the Hyogo Framework for Action is a guiding framework for some, the different initiatives do inevitably reflect a range of views. This diversity can be seen as a problem and there have been calls for harmonisation of indicators and evaluation frameworks. However desirable this may be, two factors should be borne in mind. First, every DRR initiative is context-specific, so generic or harmonised assessment schemes will always have to be customised to fit the context to which they are applied. Second, this is a relatively new area of work. Further piloting of

⁶ Behavioural change is difficult to measure, but there are methods for doing this, such as outcome mapping – see www.outcomemapping.ca

⁷ Similar attainment scales are used elsewhere in DRR assessment: for example, ISDR's DRR Indicators and Tearfund's method for assessing mainstreaming of DRR in development organisations (see Further Reading). Work has been done in some areas on more sophisticated approaches with specific benchmarks for progress towards each individual indicator (notably cyclone early warning systems). Such tools are valuable for research and national-level evaluation but are too complex for use at local or community level.

methods and debate about their results are needed before general conclusions can be drawn with any confidence.

6. Further Reading

This list contains selected important sources that are widely available (most are online). A fuller bibliography of relevant documents on indicators, resilience and community DRR is available at http://www.benfieldhrc.org/disaster_studies/projects/communitydrindicators/community_drr_indicators_index.htm

The Hyogo Framework of Action and DRR indicators

- UN ISDR Hyogo Framework for Action web page, <http://www.unisdr.org/eng/hfa/hfa.htm>
- UN ISDR 2007, 'Guide Note on Indicators for Assessing Progress on Disaster Risk Reduction' (Geneva: International Strategy for Disaster Reduction). Unpublished draft (final version will be published).
- UN ISDR 2005, *HF Dialogue: assessing progress towards disaster risk reduction within the Hyogo Framework* (online discussion, moderated by Philip Buckle and Graham Marsh), <http://www.unisdr.org/eng/hfa/hfa.htm>
- UN OCHA 2007, 'Disaster Preparedness for Effective Response: Implementing Priority Five of the Hyogo Framework for Action' (Geneva: Office for the Coordination of Humanitarian Affairs). Unpublished draft (final version will be published).

See also:

- Liebmann M, Pavanello S 2007, 'A critical review of the Knowledge and Education Indicators of Community-Level Disaster Risk Reduction'. Unpublished report for the Benfield UCL Hazard Research Centre, http://www.benfieldhrc.org/disaster_studies/projects/communitydrindicators/community_drr_indicators_index.htm

DRR indicators (general)

- ADPC 2006, *Critical Guidelines: Community-based Disaster Risk Management* (Bangkok: Asian Disaster Preparedness Center), www.adpc.net
- Barrena I 2007, 'Indicators: A guide to find simple indicators for risk reduction projects at local level' (Geneva: IFRC, unpublished draft report).
- Benson C, Twigg J 2007 (with T Rossetto), *Tools for Mainstreaming Disaster Risk Reduction: Guidance*

Notes for Development Organisations (Geneva: ProVention Consortium), www.proventionconsortium.org/mainstreaming_tools

- Benson C, Twigg J 2004, 'Measuring Mitigation': *Methodologies for assessing natural hazard risks and the net benefits of mitigation: a scoping study* (Geneva: ProVention Consortium), www.proventionconsortium.org/mainstreaming_tools
- LaTrobe S, Davis I 2005, *Mainstreaming disaster risk reduction: a tool for development organisations* (Teddington: Tearfund), <http://tilz.tearfund.org/Research/Climate+change+and+disasters+policy/>
- McEntire DA 2000, 'Sustainability or invulnerable development? Proposals for the current shift in paradigms'. *Australian Journal of Emergency Management* 15(1): 58–61.
- ProVention Consortium 2006, *Risk Reduction Indicators*. TRIAMS Working Paper (Geneva: ProVention Consortium), www.proventionconsortium.org/themes/default/pdfs/TRIAMS_full_paper.pdf

Local-level and community-based DRR

- ADPC 2006, *Critical Guidelines: Community-based Disaster Risk Management* (Bangkok: Asian Disaster Preparedness Center), www.adpc.net
- Twigg J 2004, *Disaster risk reduction: Mitigation and preparedness in development and emergency programming* (London: Overseas Development Institute, Humanitarian Practice Network, Good Practice Review No. 9). www.odihpn.org

Resilience and the disaster-resilient community

- Buckle P, Marsh G, Smale S 2000, 'New approaches to assessing vulnerability and resilience.' *Australian Journal of Emergency Management* 15(2) 8–14.
- Geis DE 2000, 'By Design: the Disaster Resistant and Quality-of-Life Community'. *Natural Hazards Review* 1(3): 151–160.
- Godschalk DR 2003, 'Urban Hazard Mitigation: Creating Resilient Cities'. *Natural Hazards Review* 4(3) 136–143.
- IFRC 2004, *World Disasters Report 2004: Focus on community resilience* (Geneva: IFRC), chapter 1.
- McEntire DA 2005, 'Why vulnerability matters. Exploring the merit of an inclusive disaster reduction concept'. *Disaster Prevention and Management* 14(2) 206–222.
- Manyena SB 2006, 'The concept of resilience revisited'. *Disasters* 30(4): 433–450.

Communities and DRR

- Buckle P 1998/9, 'Re-defining community and vulnerability in the context of emergency management'. *Australian Journal of Emergency Management* 13(4) 21–26.
- Enders J 2001, 'Measuring community awareness and preparedness for emergencies'. *Australian Journal of Emergency Management* 16(3): 52–58.
- IFRC 2004, *World Disasters Report 2004: Focus on community resilience* (Geneva: IFRC), pp. 27–31.
- Marsh G, Buckle P 2001, 'Community: the concept of community in the risk and emergency management context'. *Australian Journal of Emergency Management* 16(1): 5–7.

Section C: Tables

Thematic Area 1: Governance

Components of resilience:

1. *DRR policy, planning, priorities, and political commitment*
2. *Legal and regulatory systems*
3. *Integration with development policies and planning*
4. *Integration with emergency response and recovery*
5. *Institutional mechanisms, capacities and structures; allocation of responsibilities*
6. *Partnerships*
7. *Accountability and community participation*

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
1. DRR policy, planning, priorities, and political commitment.	1.1 Shared vision of a prepared and resilient community. 1.2 Consensus view of risks faced, risk management approach, specific actions to be taken and targets to be met.¹ 1.3 Vision and DRR plans informed by understanding of underlying causes of vulnerability and other factors outside community's control. 1.4 Community takes long-term perspective, focusing on outcomes and impact of DRR. 1.5 Committed, effective and accountable community leadership of DRR planning and implementation. 1.6 Community DRR (and DP) plans, developed through participatory processes, put into operation, and updated periodically.	➤ Political consensus on importance of DRR. ➤ DRR a policy priority at all levels of government. ➤ National DRR policy, strategy and implementation plan, with clear vision, priorities, targets and benchmarks. ➤ Local government DRR policies, strategies and implementation plans in place. ➤ Official (national and local) policy and strategy of support to community-based disaster risk management (CBDRM). ➤ Local-level official understanding of, and support for, community vision.
2. Legal and regulatory systems	2.1 Community understands relevant legislation, regulations and procedures, and their importance. 2.2 Community aware of its rights and the legal obligations of government and other stakeholders to provide protection.	➤ Relevant and enabling legislation, regulations, codes, etc., addressing and supporting DRR, at national and local levels. ➤ Jurisdictions and responsibilities for DRR at all levels defined in legislation, regulations, by-laws, etc. ➤ Mechanisms for compliance and enforcement of laws, regulations, codes, etc., and penalties for non-compliance defined in laws and regulations. ➤ Legal and regulatory system underpinned by guarantees of relevant rights: to safety, to equitable assistance, to be listened to and consulted. ➤ Land-use regulations, building codes and other laws and regulations relating to DRR enforced locally.
3. Integration with development policies and planning	3.1 Community DRR seen by all local stakeholders as integral part of plans and actions to achieve wider community goals (e.g. poverty alleviation, quality of life).	➤ Government (all levels) takes holistic and integrated approach to DRR, located within wider development context and linked to development planning across different sectors. ➤ DRR incorporated into or linked to other national development plans and donor-supported country programmes.² ➤ Routine integration of DRR into development planning and sectoral policies (poverty eradication, social protection, sustainable development, climate change adaptation, desertification, natural resource management, health,

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
		- education, etc.). - Formal development planning and implementation processes required to incorporate DRR elements (e.g. hazard, vulnerability and risk analysis, mitigation plans). - Multi-sectoral institutional platforms for promoting DRR. - Local planning policies, regulations and decision-making systems take disaster risk into account.
4. Integration with emergency response and recovery	4.1 Community and other local-level actors in sustainable development and DRR engage in joint planning with community and local-level emergency teams and structures.	- National policy framework requires DRR to be incorporated into design and implementation of disaster response and recovery. - Policy, planning and operational linkages between emergency management, DRR and development structures. - Risk reduction incorporated into official (and internationally supported and implemented) post-disaster reconstruction plans and actions.
5. Institutional mechanisms, capacities and structures; allocation of responsibilities	5.1 Representative community organisations dedicated to DRR/DRM. 5.2 Local NGOs, CBOs and communities of interest engaged with other issues capable of supporting DRR and response.³ 5.3 Responsibilities, resources, etc., defined in community disaster plans. 5.4 Shared understanding among all local stakeholders regarding DRR responsibilities, authority and decision making. 5.5 Community-managed funds and other material resources for DRR and disaster recovery. 5.6 Access to government and other funding and resources for DRR and recovery.	- Supportive political, administrative and financial environment for CBDRM and community-based development. - Institutional mandates and responsibilities for DRR clearly defined. Inter-institutional or co-ordinating mechanisms exist, with clearly designated responsibilities. - Focal point at national level with authority and resources to co-ordinate all related bodies involved in disaster management and DRR. - Human, technical, material and financial resources for DRR adequate to meet defined institutional roles and responsibilities (including budgetary allocation specifically to DRR at national and local levels). - Devolution of responsibility (and resources) for DRR planning and implementation to local government levels and communities, as far as possible, backed up by provision of specialist expertise and resources to support local decision-making, planning and management of disasters. - Committed and effective community outreach services (DRR and related services, e.g. healthcare).

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
6. Partnerships	6.1 Local stakeholders committed to genuine partnerships (with open and shared principles of collaboration, high levels of trust). 6.2 Clear, agreed and stable DRR partnerships between local stakeholder groups and organisations (communities and CBOs with local authorities, NGOs, businesses, etc.). 6.3 Processes are community-led (supported by external agencies). 6.4 Local capacity and enthusiasm to promote DRR and scale up activities (through community-external actor partnerships). 6.5 Community and local groups/organisations have capacity to recruit, train, support and motivate community volunteers for DRR, and work together to do so.	➤ DRR identified as responsibility of all sectors of society (public, private, civil), with appropriate inter-sectoral and co-ordinating mechanisms. ➤ Long-term civil society, NGO, private sector and community participation and inter-sectoral partnerships for DRR and emergency response. ➤ Linkages with regional and global institutions and their DRR initiatives.
7. Accountability and community participation	7.1 Devolved DRR structures facilitate community participation. 7.2 Access to information on local government plans, structures, etc. 7.3 Trust within community and between community and external agencies. 7.4 Capacity to challenge and lobby external agencies on DRR plans, priorities, actions that may have an impact on risk. 7.5 Participatory M&E systems to assess resilience and progress in DRR. 7.6 Inclusion/representation of vulnerable groups in community decision making and management of DRR. 7.7 High level of volunteerism in DRR activities.	➤ Basic rights of people formally recognised by national and local government (and civil society organisations: CSOs): to safety, to equitable vulnerability reduction and relief assistance, to be listened to and consulted (implies responsibility to guarantee these rights where appropriate). ➤ Effective quality control or audit mechanisms for official structures, systems, etc., in place and applied. ➤ Democratic system of governance holding decision makers to account. ➤ Government consults civil society, NGOs, private sector and communities. ➤ Popular participation in policy development and implementation. ➤ Citizen demands for action to reduce disaster risk. ➤ Existence of 'watchdog' groups to press for change.

1 Including agreement on level of acceptable risk.

2 Poverty Reduction Strategies, national Millennium Development Goal reports, National Adaptation Plans of Action, UNDP assistance frameworks, etc.

3 i.e. emergent, extending or expanding organisations. Expanding organisations are expected to take on additional functions at times of crisis, which they do by increasing their capacity or altering their organisational structures (e.g. a local Red Cross branch calling on trained volunteers to support its small core of professional staff). Extending organisations are not expected to respond to disasters but during disasters may perform non-regular tasks (e.g. a construction company clearing debris to assist rescue operations). Emergent organisations do not exist before a disaster event but form in response to it (e.g. spontaneous search and rescue groups). See Webb GR 1999, *Individual and Organizational Response to Natural Disasters and other Crisis Events: the continuing value of the DRC typology* (University of Delaware, Disaster Research Center, Preliminary Paper #277), www.udel.edu/DRC/preliminary/pp277.pdf

Thematic Area 2: Risk Assessment

Components of resilience:

1. *Hazards/risk data and assessment*
2. *Vulnerability and impact data and assessment*
3. *Scientific and technical capacities and innovation*

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
1. Hazards/risk data and assessment	1.1 Community hazard/risk assessments carried out which provide comprehensive picture of all major hazards and risks facing community (and potential risks). 1.2 Hazard/risk assessment is participatory process including representatives of all sections of community and sources of expertise. 1.3 Assessment findings shared, discussed, understood and agreed among all stakeholders, and feed into community disaster planning. 1.4 Findings made available to all interested parties (within and outside community, locally and at higher levels) and feed into their disaster planning. 1.5 Ongoing monitoring of hazards and risks and updating of assessments. 1.6 Skills and capacity to carry out community hazard and risk assessments maintained through support and training.	➤ Hazard/risk assessments mandated in public policy, legislation, etc., with standards for preparation, publication, revision. ➤ Systematic and repeated assessments of hazards and disaster risks undertaken in higher-level development programming. High-risk areas identified. ➤ Good-quality data on hazards and risks (scientific databases, official reports, etc.) made available to support local-level assessments. ➤ Existing knowledge collected, synthesised and shared systematically (through disaster management information systems). ➤ Participation of all relevant agencies/stakeholders in assessments. ➤ Government (local and/or national) and NGOs committed to providing technical and other support to local and community hazard/risk assessments.
2. Vulnerability and impact data and assessment	2.1 Community vulnerability and capacity assessments (VCAs) carried out which provide comprehensive picture of vulnerabilities and capacities. 2.2 VCA is participatory process including representatives of all vulnerable groups. 2.3 Assessment findings shared, discussed, understood and agreed among all stakeholders and feed into community disaster planning. 2.4 VCAs used to create baselines at start of community DRR projects. 2.5 Findings made available to all interested parties (within and outside community) and feed into their disaster and development planning.	➤ VCA mandated in public policy, legislation, etc., with standards for preparation, publication, revision. ➤ Vulnerability and capacity indicators developed and systematically mapped and recorded (covering all relevant social, economic, physical and environmental, political, cultural factors). ➤ Disaster impact data and statistical loss information available and used in VCA. ➤ Systematic use of VCA in higher-level development programming. Vulnerable groups and causes of vulnerability identified. ➤ Existing knowledge collected, synthesised and shared systematically (through disaster management information

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
2.6 2.7 3. Scientific and technical capacities and innovation	2.6 Ongoing monitoring of vulnerability and updating of assessments. 2.7 Skills and capacity to carry out community VCA maintained through support and training.	systems). Participation of all relevant agencies/stakeholders in assessments. Government (local and/or national) and NGOs committed to providing technical and other support to local and community VCA.
	3.1 Community members and organisations trained in hazards, risk and VCA techniques and supported to carry out assessments. 3.2 Use of indigenous knowledge and local perceptions of risk as well as other scientific knowledge, data and assessment methods.	Institutional and technical capacity for data collection and analysis. Ongoing scientific and technological development; data sharing, space-based earth observation, climate modelling and forecasting; early warning. External agencies value and use indigenous knowledge.

Thematic Area 3: Knowledge and Education

Components of resilience:

1. *Public awareness, knowledge and skills*
2. *Information management and sharing*
3. *Education and training*
4. *Cultures, attitudes, motivation*
5. *Learning and research*

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
1. Public awareness, knowledge and skills	1.1 Shared vision of a prepared and resilient community. 1.2 Whole community has been exposed to/taken part in ongoing awareness campaigns, which are geared to community needs and capacities (e.g. literacy levels). 1.3 Community knowledge of hazards, vulnerability, risks and risk reduction actions sufficient for effective action by community (alone and in collaboration with other stakeholders). 1.4 Possession (by individuals and across community) of appropriate technical and organisational knowledge and skills for DRR and response actions at local level (including indigenous technical knowledge, coping strategies, livelihood strategies). 1.5 Open debate within community resulting in agreements about problems, solutions, priorities, etc.	➤ General public aware of and informed about disaster risks and how to manage them. ➤ Appropriate, high-visibility awareness-raising programmes designed and implemented at national, regional, local levels by official agencies. ➤ Media involvement in communicating risk and raising awareness of disasters and counter-disaster measures. ➤ Public communication programmes involve dialogue with stakeholders about disaster risks and related issues (not one-way information dissemination). ➤ External agencies understand communities' vulnerabilities, capacities, risks, risk perception and rationality of risk management decisions; and recognise viability of local knowledge and coping strategies. ➤ Levels of education provision, access, literacy, etc., facilitate effective information dissemination and awareness raising.
2. Information management and sharing (more formal)	2.1 Information on risk, vulnerability, disaster management practices, etc., shared among those at risk. 2.2 Community disaster plans publicly available and widely understood. 2.3 All sections of community know about facilities/services/skills available pre-, during and post-emergency, and how to access these. 2.4 Content and methods of communicating information developed with communities (i.e. 'communication' not 'information dissemination'). 2.5 Maximum deployment of indigenous, traditional, informal communications channels. 2.6 Impact of information materials and communication strategies evaluated.¹	➤ Government (national and local) is committed to information sharing (transparency) and dialogue with communities relating to information about risk and DRM. ➤ Legislation specifies right of people to be informed and obtain information about risks facing them. ➤ Common understanding among external agencies of principles, concepts, terminology, alternative approaches in DRR. ➤ Public and private information-gathering and -sharing systems on hazards, risk, disaster management resources (incl. resource centres, databases, websites, directories and inventories, good practice guidance) exist and are accessible. ➤ Active professional networks for disaster risk management (sharing scientific, technical and applied information, traditional/local knowledge).
3. Education and training	3.1 Local schools provide education in DRR for children through curriculum and where appropriate extra-curricular activities.² 3.2 DRR/DRM and other training addresses priorities identified by community and based on community assessment of risks, vulnerabilities and associated problems. 3.3 Community members and organisations trained in relevant skills	➤ Inclusion of disaster reduction in relevant primary, secondary and tertiary education courses (curriculum development, provision of educational material, teacher training) nationally. ➤ Specialised vocational training courses and facilities for DRR/DRM available, at different levels and for different groups, linked through overall training strategy. Certification

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
	for DRR and DP (e.g. hazard-risk-vulnerability assessment, community DRM planning, search and rescue, first aid, management of emergency shelters, needs assessment, relief distribution, fire-fighting). 3.4 Householders and builders trained in safe construction and retrofitting techniques, and other practical steps to protect houses and property. 3.5 (rural) Community members skilled or trained in appropriate agricultural, land use, water management and environmental management practices. 3.6 Community experience of coping in previous events/crises, or knowledge of how this was done, used in education and training.	of training. ➤ Appropriate education and training programmes for planners and field practitioners in DRR/DRM and development sectors designed and implemented at national, regional, local levels. ➤ Training resources (technical, financial, material, human) made available by government, emergency services, NGOs, etc., to support local-level DRR.
4. Cultures, attitudes, motivation	4.1 Shared community values, aspirations and goals (and positive sense of the future, commitment to community as a whole, agreement of community goals). 4.2 Cultural attitudes and values (e.g. expectations of help/self-sufficiency, religious/ideological views) enable communities to adapt to and recover from shocks and stresses. 4.3 Informed, realistic attitudes towards risk and risk management. 4.4 Justifiable confidence about safety and capacities of self-reliance. 4.5 Possession of (or access to) the information, resources and support desired/needed to ensure safety. 4.6 Feelings of personal responsibility for preparing for disasters and reducing disaster risk. 4.7 Safer behaviour as result of awareness raising.	➤ Political, social and cultural environment that encourages freedom of thought and expression, and stimulates inquiry and debate. ➤ Official and public acceptance of precautionary principle: need to act on incomplete information or understanding to reduce potential disaster risks.
5. Learning and research	5.1 Documentation, use and adaptation of indigenous technical knowledge and coping strategies. 5.2 Participatory M&E systems to assess resilience and progress in DRR.	➤ National and sub-national research capacity in hazards, risk and disaster studies (in specialist institutions or within other institutions), with adequate funding for ongoing research. ➤ Encouragement of inter-disciplinary and policy-oriented research. ➤ National, regional and international cooperation in research, science and technology development. ➤ Comprehensive agenda for scientific, technical, policy, planning and participatory research in DRR.

1 i.e. on community and individual attitudes towards disaster risk and risk management strategies

2 Assumes high levels of school attendance; and if not, outreach activities.

Thematic Area 4: Risk Management and Vulnerability Reduction

Components of resilience:

1. *Environmental and natural resource management*
2. *Health and well being*
3. *Sustainable livelihoods*
4. *Social protection*
5. *Financial instruments*
6. *Physical protection; structural and technical measures*
7. *Planning régimes*

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
1. Environmental and natural resource management (including natural capital, climate change adaptation)	1.1 Community understanding of characteristics and functioning of local natural environment and ecosystems (e.g. drainage, watersheds, slope and soil characteristics) and the potential risks associated with these natural features and human interventions that affect them (e.g. climate change). 1.2 Adoption of sustainable environmental management practices that reduce hazard risk.¹ 1.3 Preservation of biodiversity (e.g. through community-managed seed banks, with equitable distribution system). 1.4 Preservation and application of indigenous knowledge and appropriate technologies relevant to environmental management. 1.5 Access to community-managed common property resources that can support coping and livelihood strategies in normal times and during crises.	➤ Policy, legislative and institutional structure that supports sustainable ecosystems and environmental management, and maximises environmental resource management practices that assist DRR. ➤ Effective official action to prevent unsustainable land uses and resource management approaches that increase disaster risk. ➤ Policy and operational interface between environmental management and risk reduction policies and planning. ➤ DRR policies and strategies integrated with adaptation to existing climate variability and future climate change. ➤ Local government experts and extension workers available to work with communities on long-term environmental management and renewal.
2. Health and well being (including human capital)	2.1 Physical ability to labour and good health maintained in normal times through adequate food and nutrition, hygiene and health care. 2.2 High levels of personal security and freedom from physical and psychological threats. 2.3 Food supplies and nutritional status secure (e.g. through reserve stocks of grain and other staple foods managed by communities, with equitable distribution system during food crises). 2.4 Access to sufficient quantity and quality of water for domestic needs during crises. 2.5 Awareness of means of staying healthy (e.g. hygiene, sanitation, nutrition, water treatment) and of life-protecting/saving measures, and possession of appropriate skills. 2.6 Community structures and culture support self confidence and can assist management of psychological consequences of disasters (trauma, PTSD). 2.7 Community health care facilities and health workers, equipped and trained to respond to physical and mental health consequences of disasters and lesser hazard events, and supported by access to emergency health services, medicines, etc.	➤ Public health structures integrated into disaster planning and prepared for emergencies. ➤ Community structures integrated into public health systems. ➤ Health education programmes include knowledge and skills relevant to crises (e.g. sanitation, hygiene, water treatment). ➤ Policy, legislative and institutional commitment to ensuring food security through market and non-market interventions, with appropriate structures and systems. ➤ Engagement of government, private sector and civil society organisations in plans for mitigation and management of food and health crises. ➤ Emergency planning systems provide buffer stocks of food, medicines, etc.

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
3. Sustainable livelihoods	3.1 High level of local economic activity and employment (including among vulnerable groups); stability in economic activity and employment levels. 3.2 Equitable distribution of wealth and livelihood assets in community. 3.3 Livelihood diversification (household and community level), including on-farm and off-farm activities in rural areas. 3.4 Fewer people engaged in unsafe livelihood activities (e.g. small-scale mining) or hazard-vulnerable activities (e.g. rainfed agriculture in drought-prone locations). 3.5 Adoption of hazard-resistant agricultural practices (e.g. soil and water conservation methods, cropping patterns geared to low or variable rainfall, hazard-tolerant crops) for food security. 3.6 Small enterprises have business protection and continuity/recovery plans. 3.7 Local trade and transport links with markets for products, labour and services protected against hazards and other external shocks.	➤ Equitable economic development: strong economy in which benefits are shared throughout society. ➤ Diversification of national and sub-national economies to reduce risk. ➤ Poverty reduction strategies target vulnerable groups. ➤ DRR seen as integral part of economic development, reflected in policy and implementation. ➤ Adequate and fair wages, guaranteed by law. ➤ Legislative system supports secure land tenure, equitable tenancy agreements and access to common property resources. ➤ Financial and other incentives provided to reduce dependence on unsafe or hazard-vulnerable livelihood activities. ➤ Chambers of commerce and similar business associations support resilience efforts of small enterprises.
4. Social protection (including social capital)	4.1 Mutual assistance systems, social networks and support mechanisms that support risk reduction directly through targeted DRR activities, indirectly through other socio-economic development activities that reduce vulnerability, or by being capable of extending their activities to manage emergencies when these occur.² 4.2 Mutual assistance systems that co-operate with community and other formal structures dedicated to disaster management. 4.3 Community access to basic social services (including registration for social protection and safety net services). 4.4 Established social information and communication channels; vulnerable people not isolated. 4.5 Collective knowledge and experience of management of previous events (hazards, crises).	➤ Formal social protection schemes and social safety nets accessible to vulnerable groups at normal times and in response to crisis. ➤ Coherent policy, institutional and operational approach to social protection and safety nets, ensuring linkages with other disaster risk management structures and approaches. ➤ External agencies prepared to invest time and resources in building up comprehensive partnerships with local groups and organisations for social protection/security and DRR.
5. Financial instruments (including financial capital)	5.1 Household and community asset bases (income, savings, convertible property) sufficiently large and diverse to support crisis coping strategies. 5.2 Costs and risks of disasters shared through collective ownership	➤ Government and private sector supported financial mitigation measures³ targeted at vulnerable and at-risk communities. ➤ Economic incentives for DRR actions (reduced insurance premiums for householders, tax holidays for businesses, etc.).

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
	of group/community assets. 5.3 Existence of community/group savings and credit schemes, and/or access to micro-finance services. 5.4 Community access to affordable insurance (covering lives, homes and other property) through insurance market or micro-finance institutions. 5.5 Community disaster fund to implement DRR, response and recovery activities. 5.6 Access to money transfers and remittances from household and community members working in other regions or countries.	➤ Micro-finance, cash aid, credit (soft loans), loan guarantees, etc., available after disasters to restart livelihoods.
6. Physical protection; structural and technical measures (including physical capital)	6.1 Community decisions and planning regarding built environment take potential natural hazard risks into account (including potential for increasing risks through interference with ecological, hydrological, geological systems) and vulnerabilities of different groups. 6.2 Security of land ownership/tenancy rights. Low/minimal level of homelessness and landlessness. 6.3 Safe locations: community members and facilities (homes, workplaces, public and social facilities) not exposed to hazards in high-risk areas within locality and/or relocated away from unsafe sites. 6.4 Structural mitigation measures (embankments, flood diversion channels, water harvesting tanks, etc.) in place to protect against major hazard threats, built using local labour, skills, materials and appropriate technologies as far as possible. 6.5 Knowledge and take-up of building codes/regulations throughout community. 6.6 Adoption of hazard-resilient construction and maintenance practices for homes and community facilities using local labour, skills, materials and appropriate technologies as far as possible. 6.7 Community capacities and skills to build, retrofit and maintain structures (technical and organisational). 6.8 Adoption of physical measures to protect items of domestic property (e.g. raised internal platforms and storage as flood mitigation measure, portable stoves) and productive assets (e.g. livestock shelters)	➤ Compliance with international standards of building, design, planning, etc. Building codes and land use planning regulations take hazard and disaster risk into account. ➤ Compliance of all public buildings and infrastructure with codes and standards. ➤ Requirement for all public and private infrastructure system owners to carry out hazard and vulnerability assessments. ➤ Protection of critical public facilities and infrastructure through retrofitting and rebuilding, especially in areas of high risk. ➤ Security of access to public health and other emergency facilities (local and more distant) integrated into counter-disaster planning. ➤ Legal and regulatory systems protect land ownership and tenancy rights, and rights of public access. ➤ Regular maintenance of hazard control structures ➤ 'Hardware' approach to disaster mitigation is accompanied by 'software' dimension of education, skills training, etc. ➤ Legal, regulatory systems and economic policies recognise and respond to risks arising from patterns of population density and movement.

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
	6.9 Adoption of short-term protective measures against impending events (e.g. emergency protection of doors and windows from cyclone winds). 6.10 Infrastructure and public facilities to support emergency management needs (e.g. shelters, secure evacuation and emergency supply routes). 6.11 Resilient and accessible critical facilities (e.g. health centres, hospitals, police and fire stations – in terms of structural resilience, back-up systems, etc.). 6.12 Resilient transport/service infrastructure and connections (roads, paths, bridges, water supplies, sanitation, power lines, communications, etc.). 6.13 Locally owned or available transport sufficient for emergency needs (e.g. evacuation, supplies), at least in the event of seasonal hazards; transport repair capacity within community.	
7. Planning régimes	7.1 Community decision making regarding land use and management, taking hazard risks and vulnerabilities into account. (Includes micro-zonation applied to permit/restrict land uses). 7.2 Local (community) disaster plans feed into local government development and land use planning.	➤ Compliance with international planning standards. ➤ Land use planning regulations take hazard and disaster risk into account. ➤ Effective inspection and enforcement régimes. ➤ Land use applications, urban and regional development plans and schemes based on hazard and risk assessment and incorporate appropriate DRR.
1 e.g. soil and water conservation, sustainable forestry, wetland management to reduce flood risk, conservation of mangroves as buffer against storm surges, maintenance of water supply and drainage systems. 2 These comprise informal systems (individual, household, family, clan, caste, etc.) and more structured groups (CBOs: e.g. emergency preparedness committees, support groups/buddy systems to assist particularly vulnerable people, water management committees, burial societies, women's associations, faith groups). 3 e.g. insurance/ reinsurance, risk spreading instruments for public infrastructure and private assets such as calamity funds and catastrophe bonds, micro-credit and finance, revolving community funds, social funds		

Thematic Area 5: Disaster Preparedness and Response

Components of resilience

1. *Organisational capacities and co-ordination*
2. *Early warning systems*
3. *Preparedness and contingency planning*
4. *Emergency resources and infrastructure*
5. *Emergency response and recovery*
6. *Participation, voluntarism, accountability*

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
1. Organisational capacities and coordination	1.1 Local and community DP/response capacities assessed by communities (themselves or in partnership with external agencies). 1.2 Local organisational structures for DP/emergency response (e.g. disaster preparedness/evacuation committees).¹ 1.3 Local DP/response organisations are community managed and representative. 1.4 Roles and responsibilities of local DP/response organisations and their members clearly defined, agreed and understood. 1.5 Emergency facilities (communications equipment, shelters, control centres, etc.) available and managed by community or its organisations on behalf of all community members. 1.6 Sufficient number of trained organisational personnel and community members to carry out relevant tasks (e.g. communication, search and rescue, first aid, relief distribution). 1.7 Regular training (refresher courses and new skills) provided by/for local organisations; regular practice drills, scenario exercises, etc 1.8 Defined and agreed co-ordination and decision-making mechanisms between community organisations and external technical experts, local authorities, NGOs, etc. 1.9 Defined and agreed co-ordination and decision-making mechanisms with neighbouring communities/localities and their organisations.	➤ National and local policy and institutional frameworks recognise and value local and community DP as integral part of the national preparedness and response system. ➤ Defined and agreed structures, roles and mandates for government and non-government actors in DP and response, at all levels, and based on co-ordination not command-and-control approach. ➤ Emergency planning and response responsibilities and capacities delegated to local levels as far as possible. ➤ Ongoing dialogue, coordination and information exchange (vertical and horizontal) between disaster managers and development sectors at all levels. ➤ National and local disaster management capacities (technical, institutional, financial) adequate for supporting community-level DP/response activity. ➤ Adequate budgets for DP activities included and institutionalised as part of DP planning at all levels. ➤ Funds to strengthen the capacity and activities of civil society stakeholders active in DP.
2 Early warning systems ²	2.1 Community-based and people-centred EWS at local level. 2.2 EWS capable of reaching whole community (via radio, TV, telephone and other communications technologies, and via community EW mechanisms such as volunteer networks). 2.3 EW messages presented appropriately so that they are understood by all sectors of community. 2.4 EWS provides local detail of events and takes local conditions into account. 2.5 EWS based on community knowledge of relevant hazards and risks, warning signals and their meanings, and actions to be taken when warnings are issued.	➤ Efficient national and regional EWS in place, involving all levels of government and civil society, based on sound scientific information, risk knowledge, communicating and warning dissemination and community response capacity. ➤ Vertical and horizontal communication and co-ordination between all EW stakeholders, with roles and responsibilities clearly defined and agreed. ➤ Local government included in all planning and training and recognised as key stakeholder in EWS. ➤ Communities and other civil society stakeholders active participants in all aspects of the development, operation,

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
	2.6 Community DP/response organisations capable of acting on EW messages and mobilising communities for action. 2.7 Community trust in EWS and organisations providing EW. 2.8 Technical resources (monitoring and communications equipment) in place, with systems and trained personnel for maintenance and operation.	training and testing of EWS. Mass media part of EWS, not acting independently. EWS linked to DP and response agencies. EWS backed up by wider public awareness campaigns.
Preparedness and contingency planning	3.1 A community DP or contingency plan exists for all major risks.³ 3.2 DP/contingency plans developed through participatory methods, and understood and supported by all members of community. 3.3 Plans co-ordinated with official emergency plans and compatible with those of other agencies. 3.4 Roles and responsibilities of different local and external actors defined, understood and agreed – and appropriate. 3.5 Planning process builds consensus and strengthens relationships and co-ordination mechanisms between various stakeholders. 3.6 Linkages (formal/informal) to technical experts, local authorities, NGOs, etc., to assist with community planning and training. 3.7 Plans tested regularly through e.g. community drills or simulation exercises. 3.8 Plans reviewed and updated regularly by all relevant stakeholders. 3.9 Households and families develop their own DP plans within context of community plan. 3.10 Local businesses develop their own continuity and recovery plans within context of community plan. 3.11 Contingency planning informed by understanding of broader local planning provisions and facilities.	Politically supported/approved and clearly articulated national disaster preparedness plan in place and disseminated to all levels; part of integrated disaster management plans with all relevant policies, procedures, roles, responsibilities and funding established. Roles and responsibilities of each state and non-state actor are clearly defined for each disaster scenario and have been disseminated accordingly. Civil society organisations participate in the development and dissemination of national and local-level preparedness plans; roles and responsibilities of civil society actors clearly defined. Community planning seen as key element in overall plans and incorporated into them. Resources available to support necessary actions identified by community-level plans. All contingency plans are based on a solid assessment of hazards and risks and the identification of high risk areas throughout the country. Developed and tested contingency plans are in place for all major disaster scenarios in all high risk areas. Training, simulation and review exercises carried out with the participation of all relevant government and non-government agencies. Cross-cutting issues such as gender, community participation and environmental considerations are included in all contingency plans. Local emergency services and critical facilities develop their own contingency plans, co-ordinated with community plans.

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
4. Emergency resources and infrastructure		
4.1	Community organisations capable of managing crises and disasters, alone and/or in partnership with other organisations.	Local emergency services (facilities, structures, staff, etc.) capable of managing crises and disasters, alone and/or in partnership with other organisations.
4.2	Safe evacuation routes identified and maintained, known to community members.	Higher-level emergency services with structure, capacity, facilities and procedures that enable them to support local-level actions effectively.
4.3	Emergency shelters (purpose built or modified): accessible to community (distance, secure evacuation routes, no restrictions on entry) and with adequate facilities for all affected population.	Emergency contingency funds and stocks that can be made available quickly to those in need, with established procedures for releasing them.
4.4	Emergency shelters for livestock.	Pre-arranged agreements signed with donor agencies for access to funding or loans at the international or regional level as part of emergency and recovery plans.
4.5	Secure communications infrastructure and access routes for emergency services and relief workers.	
4.6	Two-way communications systems designed to function during crises.	
4.7	Emergency supplies (buffer stocks) in place, managed by community alone or in partnership with other local organisations (incl. grain/seed banks).	
4.8	Community-managed emergency/contingency funds. ⁴	
5. Emergency response and recovery		
5.1	Community capacity to provide effective and timely emergency response services: e.g. search and rescue, first aid/medical assistance, needs and damage assessment, relief distribution, emergency shelter, psychosocial support, road clearance.	Civil protection and defence organisations, NGOs and volunteer networks capable of responding to events in effective and timely manner, in accordance with agreed plans of co-ordination with local and community organisations.
5.2	Community and other local agencies take lead role in co-ordinating response and recovery.	Capacity to restore critical systems and infrastructure (e.g. transport, power and communications, public health facilities) and agreed procedures for action.
5.3	Response and recovery actions reach all affected members of community and prioritised according to needs.	Support programmes for livelihood-focused recovery (e.g. cash for work, replacement of productive assets, emergency loans or start-up capital).
5.4	Community psychosocial support and counselling mechanisms.	Resources (human, institutional, material, financial) available for long-term reconstruction and recovery.
5.5	Community knowledge of how to obtain aid and other support for relief and recovery.	Government relief and recovery resources inventoried; information on resources and how to obtain them made available to at-risk and disaster-affected communities.
5.6	Community trust in effectiveness, equity and impartiality of relief and recovery agencies and actions.	Official agencies willing and able to guarantee public safety after disasters and to protect highly vulnerable groups.
5.7	Community/locally led recovery planning and implementation of plans linking social, physical, economic and environmental aspects and based on maximum utilisation of local capacities and resources. ⁵	Official continuity and recovery plans in place or capable of being developed, supported by appropriate systems and capacities.
5.8	Agreed roles, responsibilities and co-ordination of recovery activities (involving local and external stakeholders).	
5.9	Incorporation of DRR into community and local recovery plans.	

Components of Resilience	Characteristics of a Disaster-resilient Community	Characteristics of an Enabling Environment
		- National policy framework requires DRR incorporation into design and implementation of response and recovery. - DRR 'mainstreamed' into relevant organisations' recovery planning and practice.
6. Participation, voluntarism, accountability	6.1 Local leadership of development and delivery of contingency, response, recovery plans. 6.2 Whole-community participation in development and delivery of contingency, response, recovery plans; community 'ownership' of plans and implementation structures. 6.3 Justifiable community confidence in EW and emergency systems and its own ability to take effective action in a disaster. 6.4 High level of community volunteerism in all aspects of preparedness, response and recovery; representative of all sections of community. 6.5 Organised volunteer groups integrated into community, local and supra-local planning structures. 6.6 Formal community DP/response structures capable of adapting to arrival of spontaneous/emergent groups of volunteers (from within and outside community) and integrating these into response and recovery. 6.7 Self-help and support groups for most vulnerable (e.g. elderly, disabled). 6.8 Mechanisms for disaster-affected people to express their views, for learning and sharing lessons from events.	- Recognition by external and local emergency responders of people's right to appropriate assistance after disasters, to participation in disaster recovery planning and to protection from violence (defined in legislation). - Internationally accepted principles of rights and accountability in disaster response and recovery⁶ agreed and adopted by national authorities, local government, civil society organisations and other stakeholders. - Legal instruments mandating specific actions by public organisations in emergency response and disaster recovery. - Participatory mechanisms ensuring all stakeholders involved in the development of all components of disaster management planning and operations at levels. - Local government and other agencies have planned for co-ordination of 'emergent groups' of volunteers. - Application of social audits, report cards and other mechanisms enabling those affected by disasters to evaluate emergency response. - Independent assessments of DP capacities and mechanisms carried out and acted upon. - Effective and transparent mechanisms for monitoring and evaluating DP and response.

1 These may be groups set up specifically for this purpose, or existing groups established for other purposes but capable of taking on a DP/response role.

2 See also Table 2: Risk Assessment

3 The terms DP or contingency plan are used broadly here to cover all kinds of plan for preparing and responding to disasters and emergencies. It is assumed that the plan, like all good DP/contingency plans, has clearly stated objective(s), sets out a systematic sequence of activities in a logical and clear manner, assigns specific tasks and responsibilities, is practical and based on realistic parameters (i.e. appropriate focus, level of detail, format for local users' needs and capacities), is process-driven (i.e. does not overemphasize the importance of a written plan) and leads to actions. For more detailed guidance on preparedness and contingency planning, see UN OCHA 2007, 'Disaster Preparedness for Effective Response: Implementing Priority Five of the Hyogo Framework for Action' (Geneva: Office for the Coordination of Humanitarian Affairs); Choularton R 2007, *Contingency planning and humanitarian action: a review of practice* (London: Humanitarian Practice Network, Network Paper 59).

4 These could be part of or separate from other savings and credit or micro-finance initiatives.

5 Including resettlement plans.

6 e.g. HAP Principles of Accountability, Sphere, Red Cross Code of Conduct, forthcoming BOND DRR Group disaster recovery standards.

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