

## Chapter 1

# Background

**T**he general purpose of this report is to secure the interest of implementing organisations (governments, and non-government organisations) in, and improve their understanding of, local knowledge, practices, and contexts identified in relation to disaster preparedness so that they can be used in disaster management activities. The case study described here was carried out with the aim of identifying and documenting local knowledge and practices related to disaster preparedness in various villages prone to natural hazards, and developing and testing an analytical framework on local knowledge about disaster preparedness (Figure 1). The goal of the analytical framework is to lay out the key themes and show how the themes are related to, and influence, each other.

## Who should read this report?

In theory, since the 1980s, implementing organisations have begun to acknowledge the existence of local knowledge and practices related to disaster preparedness. However, in practice, many implementing organisations (1) do not have a primary understanding of the value of local knowledge for the success

and sustainability of their projects; and (2) do not have a clear idea of what local knowledge related to disaster preparedness really means and/or how to identify and collect information related to it. This discrepancy between theory and practice is based on biases and constraints existing at all levels (donor, project/organisational, community, household) that result in local knowledge and practices being overlooked. It is beyond the scope of this publication to describe them all in detail. Suffice it to say here, for example, that too often a teaching bias prevails even within community-based organisations whereby communication is restricted to a one-way process (i.e., an external organisation is teaching ‘a community’) instead of a two-way process. One of the reasons for this ‘teaching bias’ is the confusion between education and knowledge: illiteracy does not imply lack of knowledge. Communities can learn from outsiders, but simultaneously, outsiders can also learn from local people. Another reason for the teaching bias is that local knowledge still lacks legitimacy as far as outsiders are concerned, mainly because of their own lack of knowledge, mistaken assumptions, and power relations (knowledge is power!). More importantly, the lack of legitimacy attributed to

## Local knowledge on disaster preparedness is based on the following

### (1) Observe



People's experience of the local surroundings

#### History of natural hazards

Examples: knowledge on the location, time, duration, frequency, intensity, predictability of previous hazards

#### Nature of natural hazards

Examples: knowledge on the onset, origin, and velocity of water flow; knowledge of different types of rain

#### Evolution of social and physical vulnerabilities to natural hazards

Example: life stories explaining the impoverishment processes of households following recurrent natural hazards and other stresses

### (2) Anticipate



People's identification and monitoring of environmental indicators

#### Early warning signals

Examples: interpretational knowledge of changes in animal behaviour, vegetation patterns; knowledge of local weather forecasts

#### Time thresholds

Examples: knowledge of when it is time to buy and store food in advance, leave the house, move the cattle, and remove important belongings

#### Escape routes and safe places for humans and cattle

Examples: knowledge of the safest and fastest routes

#### Key actors and skills

Examples: knowledge of who knows what, who does what and when, who stays behind, who goes first

### (3) Adjust



People's access to assets

#### Human assets

Examples: specific skills such as traditional carpenters and masons

#### Sociocultural assets

Examples: knowledge of different social groups depending on occupational, physical ability, ethnicity, gender, caste, class, and age characteristics

#### Institutional assets

Examples: knowledge generated by local institutions and cross-scale linkages

#### Financial assets

Examples: micro-finance arrangements such as credits and savings

#### Natural assets

Examples: natural resource management strategies such as intercropping and agroforestry that conserve biodiversity and protect soil erosion and can contribute to reducing the impacts of natural hazards

#### Physical assets

Examples: infrastructural safety arrangements such as boats, housing, embankments

### (4) Communicate



People's ability to transfer knowledge among themselves and between generations

#### Oral & written communication

Examples: local songs, poems, proverbs which help the younger generation and outsiders to learn about previous hazards; stories of previous hazards encoded in the names of specific places

#### Early warning systems

Examples: use of visual signals such as mirrors, fire or audio signals like drums; having dreams of natural hazards in advance

#### Other practices

Examples: taboos which prevent people from going to certain hazard-prone areas; ceremonies, local art which helps the community to understand and remember past natural hazards, and relieve the anxiety related to the threat of future hazards

Figure 1: The four pillars of local knowledge on disaster preparedness

local and indigenous knowledge is as much a problem from within as it is from without: communities themselves need to be convinced (maybe by governments and non-government organisations) that they have knowledge and that some of it can be useful.

## Why you should read this report

This case study can help practitioners to build confidence by providing methodological guidance on how to integrate local knowledge into disaster preparedness activities. The underlying assumption behind this case study is that improving understanding of local communities will help both national and international organisations empower the communities served and hence improve their disaster preparedness. Taking local knowledge into consideration in terms of practices and contexts can help implementing organisations improve their planning for and implementation of disaster preparedness activities. It can help to improve project performance in general; that is, project acceptance, ownership, and sustainability. Understanding, accounting for, and respecting local knowledge can contribute to cost-effectiveness in the long-term, from both a financial and a social point of view. Firstly, economies of scale are based on the assumption that people do different things better on different scales. Understanding local knowledge and practices can facilitate identification of what can be promoted at local level. Building upon local knowledge and practices, when it

is relevant to do so, can decrease dependency on external aid. Secondly, and from a social point of view, taking local knowledge and practices into account can help promote mutual trust, acceptability, common understanding, and the community's sense of ownership and self-confidence. Specifically, understanding local knowledge, practices, and contexts can help development and research organisations to tailor their project activities and communication strategies to needs of local partners (or 'beneficiaries' as they are often termed). It also enables development and research organisations to act as intermediary organisations that are able to translate messages from government level to communities in a way that is understandable and credible. For instance, a meteorological agency might release the following message to communities: "the river is going to rise by one to two metres in the next 24 hours". But is it enough? What does it mean to the locals? (Other key questions are: do the locals trust this source of information? are the locals even able to receive the information? do all segments of society – women, poor, and marginalised groups – receive the information?). Government agencies often release information that is not understood at local level. Disaster preparedness communication tools, such as official warning messages or hazard maps, need to incorporate local references. How can you do so unless you understand and you have identified local knowledge, practices, and contexts; unless you are accounting for them in your project activities; and unless you respect this knowledge?

## How this report was compiled

Primary data were collected over a period of six days in the Eastern Terai of Nepal, in the districts of Dhanusa, Mahottari, Rautahat, and Sarlahi (see Figure 2) between November and December 2006. Semi-structured interviews and group discussions, especially with elders and women, were held in nine villages. The villages were selected in collaboration with CARE-Nepal and local partners through the CARE DIPECHO SAMADHAN project and following discussions with other key informants in the field. Key criteria for selection of villages included communities that (a) are affected by frequent floods (at least once per generation) to enable the study of community responses to hazards, (b) have been settled in their current geographic location for at least 50-100 years to enable the study of traditional coping strategies (underlying assumption: new settlements have had less time to build up coping strategies); and (c) have had little or no exposure to external intervention to enable the study of local responses and innovation (underlying assumption: communities tend to become dependent on external help and are losing their local coping mechanisms).

Interviews focused on both community and household strategies, from those of rich landowners to those of the poorest of the poor. Questions focused on preparedness for the rainy season in general, and for the flood season in particular. Qualitative data collected from the interviews with the villagers and other key informants were complemented by direct

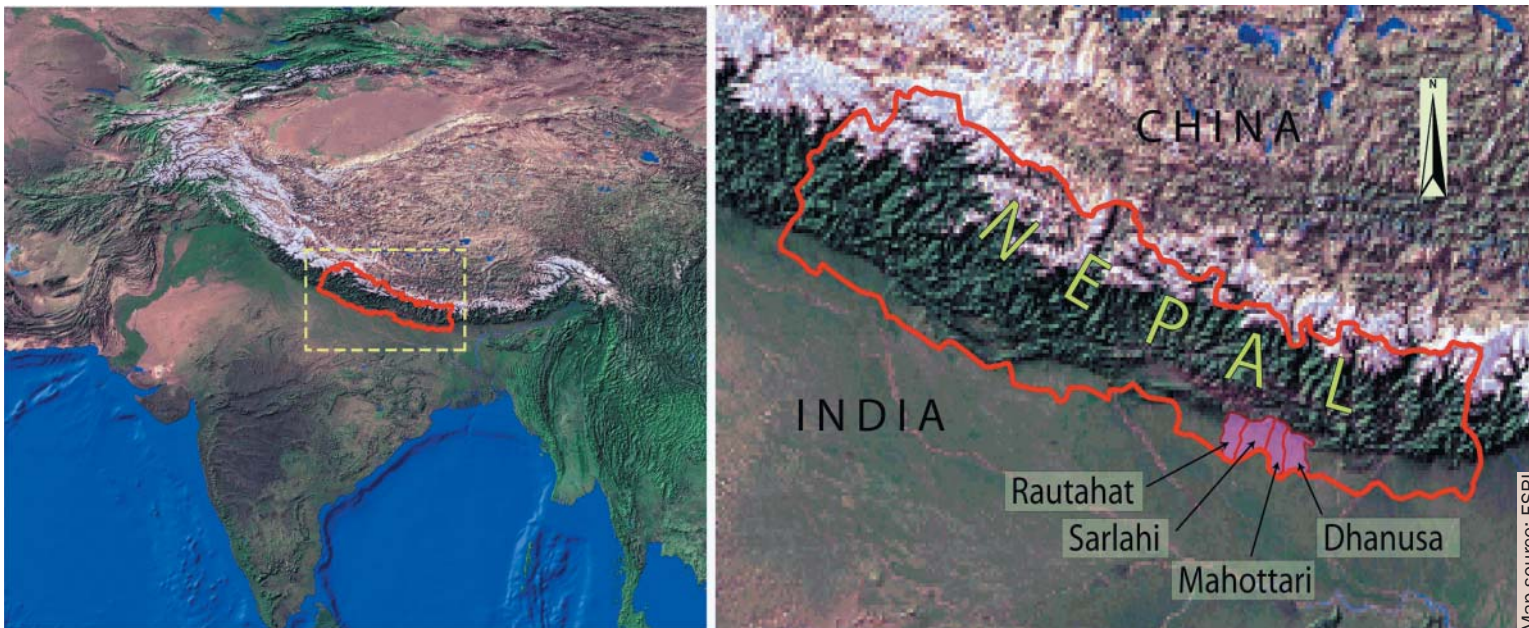
observation and transect walks in and around the villages. Although fire is one of the main hazards during the summer season, and especially in the poorest wards due to congested houses and storing of straw, it was not investigated here due to time constraints. The information collected in this report was validated through a half-day feedback and discussion session with CARE-Nepal and DIPECHO SAMADHAN project staff.

## How to use this report

The report is in four parts: this introduction followed by the methods, the findings of the case study and a conclusion. The methods section explains the four major steps one has to follow in order to collect and analyse data on **local knowledge related to disaster preparedness**. These four steps can be used as a checklist by implementing organisations.

The third part of the report, the case study itself, provides implementing organisations with a concrete example of what local knowledge on disaster preparedness is and how it can be documented. The case study is based on people's anecdotes and stories. The report uses citations to give local people a voice. Additional comments are given to put people's voices into context and to reflect their contradictions, repetitions, and complexity. Examples of key questions that implementing organisations should use to improve their understanding and to integrate local knowledge into their disaster preparedness projects are also provided (Box – 'Did you ask?').

The Snake and the River Don't Run Straight



**Figure 2: This report is based on studies undertaken in the Rautahat, Sarlahi, Mahottari, and Dhanusha districts at the foot of the Himalayas in Nepal**



The lessons learned from the study are discussed in the concluding section, which also provides a summary of the key findings in tabular form and a bibliography.

The case study itself by definition is not and cannot be complete (i.e., integrating all aspects of local knowledge related to disaster preparedness). The topic is complex and each case is context specific. However, as mentioned already, the case study is organised around an analytical framework that can be used anywhere (Figure 1: the four pillars of local knowledge on disaster preparedness). Most importantly, this case study can help implementing organisations to use and develop the analytical framework to their own requirements. Understanding the process of data collection and the type of information collected in this report is even more important than the outcomes per se, as it helps similar exercises documenting local knowledge to be carried out in other contexts. As such, the intention is that this should be a **learning** case study: it is designed to raise questions and stimulate practitioners to find their own answers (Hussain-Kaliq 2004). The report can be most useful in the project development and implementation stages, especially during analysis of local contexts (e.g., socioeconomic surveys), and during the design of project activities.

What is **not** covered in this report? This report does not cover how to use the information collected – that is how to use local knowledge related to disaster preparedness and how to integrate it into your own activities (e.g., street drama, school curriculum). The present case study aims only to facilitate understanding about local knowledge on disaster preparedness.

**The assumption here is that local knowledge and practices, whether they are relevant or not in a specific context for a specific project, cannot and should not be ignored. Local knowledge and practices always need to be taken into account.** However, and importantly, it does not mean that all local knowledge and practices are appropriate or sustainable. Therefore, the next important step – which is not part of this case study – includes: assessing which local knowledge and practices you can support within your timeframe; for whom and for which objectives; how to integrate it into your activities; how it can be combined with other knowledge on disaster preparedness; and within which context local knowledge and practices can help to improve your disaster preparedness activities (i.e., contextualising local practices and disasters and providing policy recommendations).