

# INTRODUCTION

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## Background

Commonly faced natural hazards in Nepal include floods and landslides, earthquakes and fires which in addition to killing and injuring people can cause extensive environmental, social and economic damage. Sudden-impact natural disasters often disrupt vital services such as water, sanitation and health facilities and this may have a serious impact on the health of the disaster affected population. Especially the lives and health conditions of vulnerable groups are prone to become more affected by the damage done as they lack the resources to cope effectively with the devastation caused by natural disasters. Such vulnerable groups are children, pregnant and lactating women, elderly and poor people whose health is at high risk of deteriorating by the often slow recovery of health services following disasters. In addition, sick, injured and disabled persons deserve special attention regarding public health concerns after disasters.

### Sudden Impact Disasters

Sudden events caused by natural phenomena such as earthquakes, flash floods, landslides and glacial lake outbursts. They strike with little or no warning and have an immediate adverse impact on human populations, activities, and economic systems.

### Slow Onset Disasters

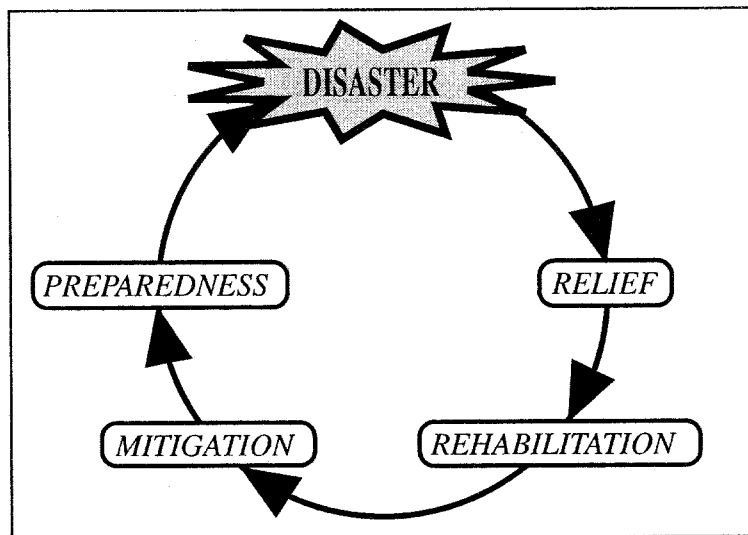
Situations where conditions slowly become worse until the affected population's ability to cope and survive is threatened. Typically prolonged crises such as drought, crop failure, pest-related diseases, or slow

## Disaster Definitions

So far, words like disaster and hazard have been used to describe extraordinary circumstances affecting people's lives and well-being negatively. In this connection, **hazard** is used about the event that may lead to a disaster. You could say that the hazard is the potential for something happening that threatens people, material, and the environment and, as such, may trigger a disaster. When something is referred to as a **disaster** it is because the effects of the impact are so severe that the affected community has to respond by taking exceptional measures. In many cases, it will be necessary with outside help to cope with the need for response.

When working in disaster management it is useful to distinguish between emergency preparedness and disaster response. **Emergency preparedness** focuses on various measures that must be taken before a

Figure 1: Disaster Management Cycle



Source: *Health Sector Emergency Preparedness & Disaster Response Plan, 2003, p. 4*

disaster happens. **Disaster response** focuses on the response operation itself during and immediately after the occurrence of a disaster. The third phase in disaster management is concerned with **rehabilitation** and takes place when the acute phase of the disaster is over. The focus of this phase should be on long-term issues such as reintegration of emergency health services within the existing health infrastructure. The linkage between emergency preparedness and disaster response (relief) is illustrated by the Disaster Management Cycle in Figure 1. A more detailed explanation of the activities that should be considered in the different phases is given in Chapter 2, p. 10-13.

In order to minimise the health effects of disasters it is essential that first responders such as district Rapid Response Teams have basic knowledge of potential risks following a disaster and have considered relevant response actions before the disaster occurs.

## **Health Effects of Various Hazards**

In general, disasters do not import diseases not already present in the affected community. In Nepal, the most common diseases with high morbidity and case fatality are measles, diarrhoea, ARI, malaria and kalazar. The spread and severity of these diseases may increase following a disaster.

Experiences from various disasters in different parts of the world reveal that a number of public health issues are common to most disasters. The following table summarises the predictable health effects and their possible severity due to six common hazards in Nepal.

## Summary of Health Effects

Health Effects	Earthquake	Flood	Landslide	Epidemic	Complex Emergency	Fire
Deaths	Many	Few	Many	Many	Many	Few
Severe injuries requiring extensive treatment	Many	Few	Few		Many	Many
Increased risk of epidemics	Yes	Yes	Yes		Yes	
Damage to water systems	Severe	Light	Severe (but localized)	None	Limited (depends on the factions fighting)	None
Damage to health facilities	Severe (structure and equipment)	Severe (equipment only)	Severe (but localized)	None	Limited (depends on the factions fighting)	Depends on Location
Demand of health services	High	High	Low	Moderate	High	Moderate
Food shortage	Possible (due to distribution)	Common	Common (but localized)	None	Common (in prolonged conflicts)	Possible (if crops destroyed)
Major population movement	Common (generally limited)	Common	Common (generally limited)	Common (generally limited)	Common (generally limited)	Unlikely

Source: adapted from PAHO, 1999, p. 16-17 and *The Health Sector Emergency Preparedness & Disaster Response Plan*, 2003, p. 5

The health effects differ not only according to the type of disaster but also to the economic and political situation of a disaster affected area prior to and following a disaster. Emergency preparedness and disaster response must therefore consider the existing health services in the

disaster affected area in order to determine the anticipated health impact of an emergency. In addition, public health is influenced by a number of other aspects that contribute to the well-being and health of the affected population. In order to understand what aspects should be considered in emergency preparedness, the following is an overview of the major components. They will all be dealt with in more details in chapters two and three.

- **Control of Communicable Diseases** is vital to reduce mortality and morbidity. In order to detect possible disease outbreaks in time, the early warning systems must be strengthened prior to a disaster (see Chapter 3, control of communicable diseases standard 1-6, p. 26-30).
- **Water** is essential for ensuring public health and survival. Inadequate water supply and water of poor quality can significantly increase the mortality and morbidity rate in a disaster affected population. In addition to palatable water for consumption adequate quantities are needed for personal hygiene (see Chapter 3, water supply standard 1-3, p. 15-17).
- **Sanitation** facilities must be hygienic and adequate as communicable diseases have been known to increase if sanitation facilities are insufficient following disasters. Proper disposal of excreta creates the first barrier to excreta-related diseases, helping to reduce disease transmission through direct as well as indirect routes (see Chapter 3, excreta disposal standard 1-2, solid waste management standard 1 and drainage standard 1, p. 17-18 + 22-23).
- **Vector Control** is an essential part of disaster management as vector-borne diseases are a major cause of illness and death in many post-disaster situations (see Chapter 3, vector control standard 1-3, p. 20-22).

- **Hygiene Promotion** is essential as poor hygiene is a crucial factor in the transmission of water and sanitation related diseases. Information and education on the proper use of, care and maintenance of water and sanitation facilities must be made available to the disaster affected population. Hygienic considerations and practices must be included in all aspects related to the health of the affected population (see Chapter 3, hygiene promotion standard 1, p. 19-20).
- **Health Facilities** and systems must be strengthened before a disaster occurs by developing individual preparedness and response plans in all health institutions and testing them on a regular basis (see Chapter 2, Emergency Preparedness and Response Plan, p. 10 and Chapter 3, health systems and infrastructure standard 1-3, p. 24-26).

As mentioned, each of these six public health related components will be treated in-depth in Chapter 2 and 3 when outlining the different roles and responsibilities of the district RRTs and when listing the individual indicators and standards from the *Sphere Project*.