



# Understanding Disasters

Internship Series

**Volume-3: Understanding Disasters**

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This publication has been compiled from a range of previously printed literature and the internet has been a very large resource for this compilation. We would like to acknowledge all the sources from where our information has been referenced or compiled.

**ISBN: 978-81-89587-24-6**

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# About the Document

This Volume is a unit of an Internship Series developed as a part of the International Internships conducted by CEE, the SAYEN Secretariat and supported by SDC. It is targeted to youth and will act as a guideline on Disasters and Disaster Management for beginners.

The field of disaster management has grown tremendously in the past couple of years. The world has witnessed the force of natural disasters time and again and the figures support the fact that the number of disasters has increased in the last couple of years. With technology also growing at a pace where adjusting to it takes longer than the latest technology, there are technological disasters also in the fray.

The understanding has also shifted from management to preparedness and disaster risk reduction. The world is waking up to the fact that no longer can we wait for a disaster to occur. Something must be done to prevent it and if not prevent one, then be ready to face the onslaught of one so that no lives are lost and the damage caused doesn't reduce the quality of life of the affected people in the long run.

This volume has covered some simple and basic concepts that need to be clarified to anyone who wishes to go into the field of Disaster Management. It simplifies the disaster risk management cycle, action taken on the global level to improve the response to a disaster and risk reduction, approaches to study a disaster and attempts to break the myths that have persisted and highlight the learning that has come through many years of hardship.

Within this volume we have not focused on man-made or technological disasters, as the scope of work and response to these are wide and varied and do not fit into the scope of this document.

## Objectives

1. To introduce the magnitude of disasters, types and basic factors and causes that lead to a disaster
2. To simplify the understanding of the disaster risk management cycle
3. To outline some basic approaches of how to study disasters
4. To highlight some milestones at the international level that are aimed at improving disaster response and risk reduction activities
5. To demystify myths and showcase learning that has emerged over the years.

# Introduction

*“We live in the midst of alarms; anxiety beclouds the future; we expect some new disaster with each newspaper we read.” - Abraham Lincoln, 12 February 1809 - 15 April 1865*

Even though these words were spoken by Abraham Lincoln on the 29<sup>th</sup> May, 1856 in a different context, they haven't lost their significance; the context maybe slightly larger. These words have significance today in relation to the fact that we dread opening the newspaper or watching the news and finding out about some disaster that may have caused the loss of life.

No longer is nature's fury the only thing we fear, technological disasters, riots and human carnage over the years have played an equal if not larger share in disasters.

## Natural Disasters

There has been an increase in the number of natural disasters over the past years, and with it, increasing losses on account of urbanization and population growth, as a result of which the impact of natural disasters is now felt to a larger extent. According to the United Nations, in 2001 alone, natural disasters of medium to high range caused at least 25,000 deaths around the world, more than double the previous year, and economic losses of around US \$ 36 billion. These figures would be much higher, if the consequences of the many smaller and unrecorded disasters that cause significant losses at the local community level were to be taken into account.

Devastations in the aftermath of powerful earthquakes that struck Gujarat, El Salvador and Peru; floods that ravaged many countries in Africa, Asia and elsewhere; droughts that plagued Central Asia including Afghanistan, Africa and Central America; the cyclone in Madagascar and Orissa, floods in Bolivia, Earthquake in Iran, Hurricane Katrina in New Orleans (US), tsunami in South Asia, wild fires in Greece and the earthquake in Peru are global events in recent memory. However, what is disturbing is the knowledge that these trends of destruction and devastation are on the rise.

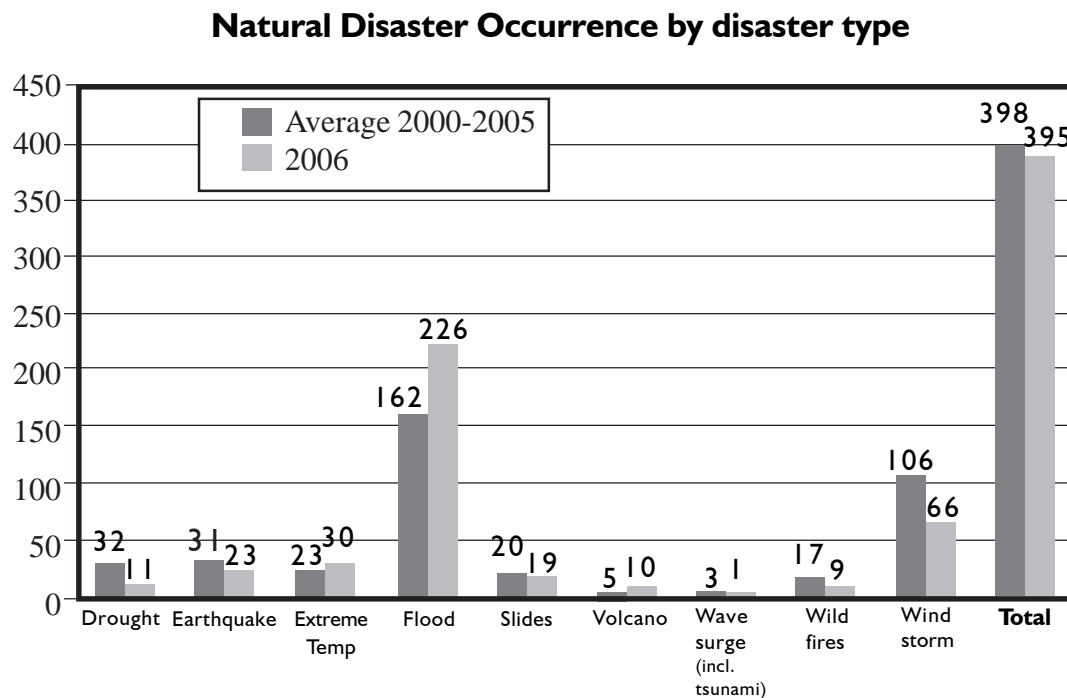
Natural disasters are not bound by political boundaries and have no social or economic considerations. They are borderless as they affect both developing and developed countries. They are also merciless, and as such the vulnerable tend to suffer more at the impact of natural disasters. In the year 2006, figures released by Centre for Research on the Epidemiology of Disasters (CRED) highlighted that 4 European countries (France, Netherlands, Belgium and Ukraine) were among the top 10 most affected countries in terms of number of deaths caused by disasters. Asia remains to be the worst affected continent over the years.

The continent of Asia is particularly vulnerable to disaster strikes. Between the years 1991 to 2000, Asia has accounted for 83 per cent of the population affected by disasters. While the number of people affected in the rest of the world were 1, 11,159, in Asia the number was 5, 54,439. In 2006, Asia still continues to be the highest affected continent with 44 percent of disaster occurring in the region.

*“The number of people killed by disasters has been decreasing if we do not take into account the two mega events: the tsunami in the Indian Ocean and the earthquake in Pakistan. On the other hand, the number of people affected remains high even if the 2006 figure is relatively lower than in 2005 and 2004.”*- Debarati Guha- Sapir, Director CRED.

The figures below validate the statement above. But these only take into account the natural disasters that have occurred.

**Figure 1**



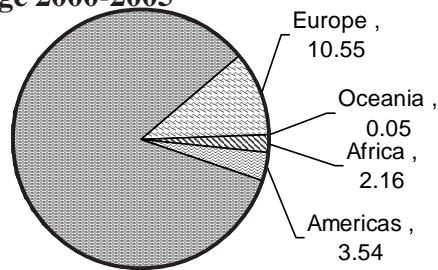
## Defining Disasters

In order to get a better understanding of what disasters are, how they affect life and what are the factors that lead to a disaster we need to take a step-wise path towards further breaking down how disasters can be managed, prevented or mitigated.

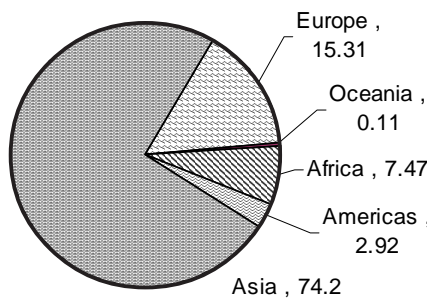
Figure 2

## Percentage of people killed by natural disasters by continent

Average 2000-2005



2006



Source for figure 1 & 2: [www.em-dat.net](http://www.em-dat.net)

The word Disaster comes from Middle French *désastre*, from Old Italian *disastro*, from the Greek pejorative prefix *dis-* **bad** + *aster* **star**.<sup>1</sup> One of the earliest recorded natural disasters was the Volcanic eruption of Mt. Vesuvius in 79 A.D. which destroyed the cities of Pompei and Herculaneum. Since then the world has seen an increasing number and variety of disasters.

The Center for Research on the Epidemiology of Disasters (CRED) in Brussels, Belgium, uses the following definition. “A *disaster* is a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance.”

The World Health Organization defines it as “any occurrence causing damage, ecological disruption, loss of human lives, deterioration of health and health services on a scale sufficient to warrant any extraordinary intervention from outside the affected community.”

One can derive from both these certain factors:

- 1) Loss of life
- 2) Need external intervention
- 3) Break down of local capacity

Disaster is a wide term and covers many types of disasters. It is necessary to classify the types of disasters to get a better understanding of the causes and repercussions of the same.

## Classification of Disasters

Disasters can be classified based on cause, extent of damage and the time they take to manifest.

Classification based on	Types	Example of Disaster
1. Cause	<b>Natural</b>	
	a) <b>Geological:</b> earthquakes, volcanic eruptions, landslides, avalanches, tsunamis	<b>Earthquake:</b> Bhuj Gujarat, India 2000 <b>Volcanic:</b> Mt. Vesuvius, Italy, 70 A.D. <b>Avalanches:</b> Montroc, France, 1999 <b>Tsunami:</b> South Asia, Dec 2004
	b) <b>Meteorological or Climatic:</b> hurricanes tsunamis, droughts, heat and cold waves	<b>Hurricanes:</b> New Orleans, USA, 29 <sup>th</sup> August, 2005 <b>Droughts:</b> Russia, 1921-1923 <b>Cold wave:</b> South Asia Jan-Feb, 2003
	c) <b>Biological:</b> Pest infestations	<b>Pest Infestations:</b> Coconut leaf beetle infestation, Philippines, Sept 2007 <sup>1</sup>
	<b>Man-made<sup>1</sup></b>	
	a) <b>Technological:</b>	
	i. <b>Industrial hazards:</b> Mining disasters	Monongah, West Virginia, USA, 6 <sup>th</sup> Dec, 1907 <sup>2</sup>
	ii. <b>Structure collapse:</b> Engineering failures	Can Tho Bridge collapse, Can Tho, Vietnam, 26 September 2007 <sup>3</sup>
	iii. <b>Power outage:</b> Extended power outages	New York City Blackout, USA, 1977 <sup>4</sup>
	iv. <b>Fire:</b> Bush fire, Fire, Mine fire, Wildfire, and Firestorm	Forest fires, Greece, 23 <sup>rd</sup> -27 <sup>th</sup> August 2007 <sup>5</sup>
	v. <b>Transportation (not in a war):</b> Bus, Ship, Train	RMS Titanic hit by an iceberg sinks, 14 <sup>th</sup> April 1912. This remains to be the largest transportation disaster in history.
	vi. <b>Aviation:</b> Helicopter, airlines	<ul style="list-style-type: none"> <li>Japan Airlines Flight crash 123 in 1985 in Gunma Prefecture, Japan<sup>6</sup></li> <li>Collision of 2 Boeing 747 collided in Tenerife, Canary Islands, Spain, killing 583 people<sup>7</sup></li> </ul>
	vii. <b>Space Disasters:</b> Shuttles	Disintegration of Space Shuttle Columbia, Texas, USA, 1 <sup>st</sup> Feb 2003 <sup>8</sup>
viii. <b>Hazardous materials:</b>		
i. Radiation contamination	The Atomic bombing of Hiroshima & Nagasaki, Japan, by American troops, on the 6 <sup>th</sup> & 9 <sup>th</sup> of August 1945 respectively.	
ii. CBRNs		
b) <b>Civil disturbance:</b> riots, terrorism, war	Sarin gas attack on the Tokyo subway, Japan, March 20, 1995. <sup>9</sup>	

Classification based on	Types	Example of Disaster
	c) <b>Sociological hazards:</b> Crime	Arson
2. Extent of Damage	I. <b>Major:</b> earthquakes, floods, cyclones, hurricanes, typhoons. Industrial disasters. II. <b>Minor:</b> heat and cold waves	Chernobyl disaster, Bhopal gas tragedy
3. Time-period to manifest	I. <b>Sudden onset</b> (0-2 hours)- earthquakes, tsunamis, volcanic eruptions, industrial accidents II. <b>Intermediate onset</b> (1-7 days)- cyclones, floods III. <b>Slow/Long onset</b> (several weeks/months- to a year)- droughts, climatic changes	

## The Realization of a risk: Disaster

Many times, the word hazard is used interchangeably with disaster. But it is necessary to clarify the difference.

### Hazard

A **hazard** is man-made or a natural event that can potentially trigger disaster (earthquakes, mud-slides, floods, volcanic eruptions, tsunamis, drought, economic collapse, and war). It is important to note that it will not necessarily result in a disaster. This brings us to the important question about when does a hazard actually pose a risk of becoming a disaster.

### Vulnerability

If one is susceptible/ **vulnerable** to a hazard the risk of being affected is higher. **For example:** Poor people living in huts are more vulnerable to the wave surges along the sea coast as compared to people who live in high rise buildings. Vulnerability can be defined as extent of exposure and susceptibility to losses.

A more relative definition is, “A set of conditions & processes resulting from physical, social, economic, & environmental factors which increase the susceptibility of a community to the impact of hazards.”

## What makes people vulnerable?

If we are to analyse who are the most vulnerable, be it any country in the world, the answer is unanimous – it's the poor. Poverty increases a person's susceptibility to the onslaught of a disaster. Disasters are blind to the social, economic, political and personal status of people so in some unfortunate way it acts as a leveler. But what it does is make the poor poorer. Figures from the United Nations Development Programme show that people in countries ranked among the lowest 20 per cent in the Human Development Index are 10 to 1,000 times more likely to die in a natural disaster than people from countries in the top 20 per cent.

## Types of Vulnerability

Vulnerability may not necessarily be of the same kind in each community. The vulnerability would depend on the type of hazard that the population is most vulnerable to. In the Andaman & Nicobar Islands the traditional houses built of bamboo were resistant to earthquakes or tremors, but the community's proximity to the sea was their Achilles heel in the event of the tsunami. Here the vulnerability was not so much economic or social as it was physical. But there were many RCC houses that were damaged because of the earthquake rather than the tsunami waves.

**Physical Vulnerability:** Location, Structural Design, Infrastructure  
**Social Vulnerability:** Poverty, Lack of opportunity, lack of education  
**Economic Vulnerability:** Social Groups, Class differences

It is imperative to note that though we talk about physical vulnerability we are not speaking in terms of the building or the structure's vulnerability. Here the vulnerability is of the people who live in the building, which is structurally weak or can be said to be unsafe.

A **vulnerability Analysis** can be defined as, “the relationship between the level of risk, local capacities, and the living conditions of the threatened community’ (Trujillo). This involves considering ‘the wider **factors that determine the conditions in which such communities live**’ and undertakes an **analysis of local capacities** in two dimensions: **institutional framework** for management of disasters, and current **capacities in civil society**.<sup>13</sup>

## Capacity

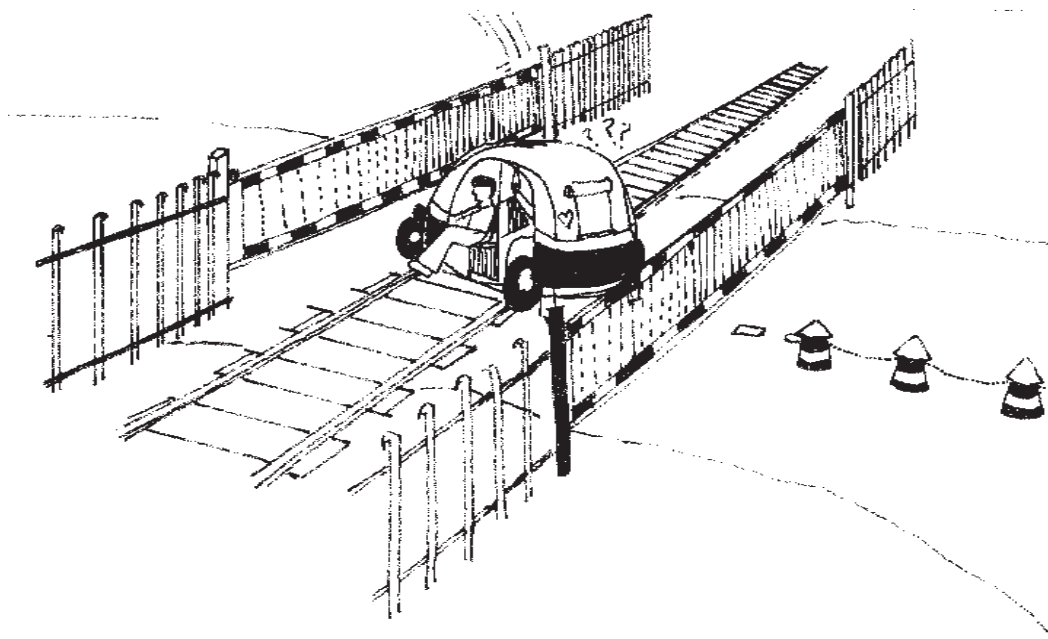
Another factor which increases the risk to a disaster is the **capacity** of a community. The capacity of the community is the combination of all the strengths and resources in a community that can aid towards reducing the level of a risk or effects of a disaster. In the event of the tsunami, two states in India affected by the tsunami had projected very different pictures. In the state of Andhra Pradesh, the number of lives lost was much lower than that of those in the neighbouring state of Tamil Nadu. One of the biggest contributing factors to this was the long-term Community Based Disaster Preparedness Programme that was being carried out in most of the coastal villages of AP. The people were better prepared at the community level as compared to people in TN.

We have been mentioning the term risk throughout this section. What does risk mean in terms of a disaster? A risk is the potential/probability or likelihood of a disaster happening. The Crunch and Release model highlights how the vulnerability of a community and the underlying issues put pressure and in the event of a hazard can lead to a disaster. Another factor that plays an important role in the actualization of a disaster is the capacity of the people.

A simple formula would explain how a hazard combined with the capacity of the people, and their vulnerability may lead to a risk.

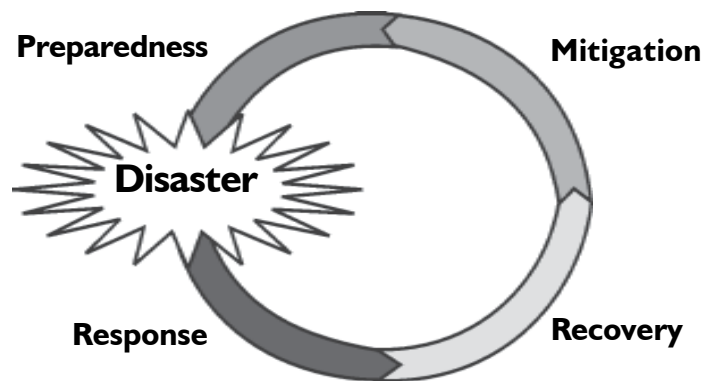
	$H*V/C = R$
<b>H = Hazard</b>	: Potential threat to humans and their welfare
<b>V = Vulnerability</b>	: Susceptibility to loss of life or dignity
<b>C = Capacity</b>	: Available and potential resources
<b>R = Risk</b>	: Probability of occurrence of disaster

A hazard combined with vulnerability and based on the capacity of a community will determine the risk. There is an inverse relation between vulnerability and capacity. The higher the vulnerability and lower the capacity of the community the greater the risk and vice versa. *The realization of a risk is a disaster.*



# Cycle of Disaster

With a disaster comes the destruction of life and property. The devastation is not over once the immediate event has passed, rather the repercussions of it echo through the years that follow. There are four phases in Disaster Risk Management, Response, Recovery, Mitigation and Preparedness.



Source: [www.eonline.com](http://www.eonline.com)

Prior to the DRM approach, the Emergency management approach *focused on the emergency itself and actions carried out before and after the emergency including emergency preparedness and recovery. Its objective is to mitigate the losses, damage and disruption when disasters occur and to facilitate a quick recovery.* There are many countries that still follow this approach but there has been a slow but steady transition in adopting the DRM approach.

The Disaster Risk Management approach *focuses on the underlying conditions of risk, generated by unsustainable development and which lead to disaster occurrence, and on actions intended to manage and reduce those risks. Its objective is to increase capacity to manage and reduce risks and hence the occurrence and magnitude of disasters.*

## Response Phase

The **Response Phase** includes activities which are done immediately after a disaster, evacuation, distribution of relief, searching for survivors, tending to the injured, burial or cremation of the deceased, setting up temporary camps or shelters for the survivors and assessing the damage and the needs of the affected population. Depending on the extent of the damage and number of people affected this period can last up to 3 months. Trauma Counselling and Psychological aid provided at this time is very important.

During this phase, the media brings the world's focus upon the event depending on the extent of the damage, the coverage received in turn gets a response from governments, International NGOs, the UN, local and National NGOs of that country, communities and individuals the world over. There is a move to the place which has been affected but before this it is communities and local organizations which reach the scene. If the area is a conflict zone, then there is a restriction on which all organizations can enter.

In Aceh, Indonesia after the tsunami because it was a conflict zone, the government did not allow many organizations from entering in. But after a few months seeing the plight of the people, the government signed a Peace Agreement with the *Gerakan Aceh Merdeka* (GAM) or Free Aceh Movement in Aceh, northern Sumatra and opened Aceh to International organizations.

## Recovery Phase

The **Recovery Phase** is the logical next step, where people are trying to gain their footing and regain their lives. After the initial shock, it is the reality that life must go on. There may not necessarily be a smooth transition from the first phase to the next. The recovery phase entails organizing the community, helping people resurrect their livelihoods and re-build or fortify their homes. Most of the times the communities affected are not homogenous. There are social issues like class, caste, gender which are sensitive subjects and must be dealt with carefully.

### Local Capacity

A major factor, which affects this phase, is the **capacity** of the people to come back from a disaster in terms of the resources at their disposable and their personal/individual capacity. **For example:** In the event of an earthquake if a person's shop has been badly damaged it will make a lot of difference if the shop owner has an insurance policy. This would act as a shock absorber and might make it easier for him to re-gain his livelihood. A disaster may not discriminate between the rich and the poor, but it does affect the poor more severely because of their limited capacity to come back to the level that they were at before the disaster. The poor might have had little before they encountered the disaster but after it, they are left with nothing. In many developing nations the security of livelihoods depends on nature and because of the high liability and susceptibility to disasters, insurance is not easily available.

### Livelihoods

The loss of livelihoods can sometimes be even more devastating to people than loss of a house. Their means of earning a living many times would be the one hope that sees them through a tough time. Who are the worst affected? This answer would depend on the type of disaster. If it is floods in an urban area people who own businesses, shops, restaurants, godowns in basements etc. will be badly affected in terms of their livelihoods. People who own push-carts, petty-shops or household enterprises and who live on the ground floor or in small huts would be the worst affected. Restoration of livelihoods is essential to get people back from a disaster. In many cases organizations working with disaster affected communities try and organize them and train

people in alternative livelihoods, which would help them be self-sufficient and encourage the use of locally available resources.

### **Shelter**

*A comfortable house is a great source of happiness. It ranks immediately after health and a good conscience. - Sydney Smith<sup>14</sup>*

In a disaster a house is a lot more than a place of living. For many poor people, the house is where they carry out their work, store things and where they can be with their families. Issues surrounding the building of houses are related to:

1. Structure- how many rooms, where will the toilet be, where should the kitchen be, design that is seismically safe
2. Location- where should it be built? Should it be in-situ or relocated? How closely is the livelihood related to where the person lives? What about the family- is it a joint family or nuclear? What about the community social structures that existed before the disaster? How does each house fit in the layout? What about the ownership of the land? Who is the rightful owner?
3. Culturally- what are the local traditions that are taken into consideration while building a house? e.g. did the house have a courtyard?

The participation of the people for whom the house is being built is important not only in the design and layout of the house but also getting them to help with the actual construction is recommended by many organizations and also has been tried and tested.

### **Coordination & Communication**

The chaos that ensues after a disaster can sometimes increase because of the entry of external organizations and individuals into the communities, which have been affected. Who are all the players in any disasters? Individuals, communities, local/national/international organizations, government, army, air force, and/ or navy. Coordination can increase efficiency, reduce duplicity and cover more area and number of affected. A coordination centre or body that actually brings all actors in such a large field together is a starting point. But many times, each group comes in with a specific purpose and chooses to work in isolation. Many times, it's the government of the particular country that conducts overall coordination between all actors. In situations where the government doesn't play a strong role, sometimes civil society organizations get together with the community and organize efforts.

#### **Cash for Work**

In the tsunami the Cash for Work programme was used in a big way by many organizations. The affected communities were enlisted in work like removing debris, helping in relief work etc. and they were given cash in return for their work. This programme achieved a level of success in many areas, but in some areas created a level of dependency amongst the communities.

**For Example:** In the Gujarat Earthquake, 2000 in order to coordinate the work being carried out for rehabilitation, an Umbrella organization called ABHIYAN set up SETUs (meaning Bridge), rural coordination centres.<sup>15</sup>

Such coordination centres become the hubs to accumulate information from the locality and disseminate it to other people in the field, the district collectorate and NGOs that could be of assistance in various areas.



The trend in the past decade of disasters has seen an increase in external aid from government, NGOs and communities alike. Many times, a disaster is viewed as a development opportunity by the external agents who enter a community- this approach has sparked off a large controversy. Leaving open a question about where does one draw the line when working with a community? The South Asian tsunami of December 2004 can be seen as a turning point in the history of the response to a disaster- not only in terms of the volume of funds received but also with the overwhelming response of the International community to the disaster. This collective response threw up another related issue- the independence and self-sufficiency of communities.

### **Will communities faced by disaster depend on external help rather than be prepared and self-dependent?**

This challenge can only be answered in the next two phases: Mitigation & Preparedness.

## **Disaster Mitigation**

Measures taken in advance of a disaster aimed at reducing its impact on society and the environment is termed as **Disaster Mitigation**. Creation of stronger, better infrastructure, better communication technology e.g. retrofitting buildings, installing flood-control dams, creating early warning systems and framing specific legislations are some initiatives that could be undertaken for disaster mitigation.

There are two types of mitigative measures:<sup>16</sup>

1. Structural measures are those which use technological solutions e.g. flood levees
2. Non-structural measures can include legislation, land-use planning (e.g. the designation of nonessential land like parks to be used as flood zones), and insurance

The basic idea of mitigation is to reduce the vulnerability and risk to a society.

## Preparedness Phase

The **Preparedness phase** is possibly the most important phase in the cycle of a disaster because it not only complements the Mitigation phase but it also ensures an increased survival rate. Disaster Preparedness can be explained as Ability to predict, respond to and cope with the effect of a disaster. Preparedness should be done ideally at the community level as it is the community that is the first to respond to any disaster situation in the initial 24 hours, which are crucial. Many International organizations like the International Red Cross keep trained teams on stand-by at all times in case there is a disaster in any part of the world. This kind of preparedness at every level would save many more lives.

Over the decades, there has been a shift in thinking from a “**reactive**” to a “**proactive approach**”. It is not merely important to react when a disaster occurs but to be prepared for its eventuality. Mitigation is the effort to reduce its impacts but when a level 5 tornado hits, or an earthquake with a magnitude greater than 7 on the Richter scale occurs in a particular area one would expect some amount of damage because of the power and force of the event. The tsunami of 2004 is probably a strong example of this. In Aceh (point of origin of the undersea earthquake) entire hillsides were washed away, a floating power plant weighing over 1000 tonnes was flung into land by the waves. Thus it is important to reduce such impacts through mitigation but what is equally important is to be prepared for the worst scenario.

### **Characteristics of preparedness**

- Directed to those on the margins
- Family based and village based
- Environmentally sustainable
- Aimed at reducing poverty among the vulnerable
- Concerned with nutrition, as it is the malnourished who are the most vulnerable to the hardships, accompanying disaster, especially those interrupting food supplies
- Concerned with fostering self-reliance as this is the only way the programmes themselves will be sustainable
- Focused on subsistence agriculture, as it is the peasant farmers whose lives and livelihoods are most vulnerable to most disasters

### **Community Based Disaster Preparedness (CBDP)**

CBDP is an institutional arrangement to help communities prepare for the onset of a disaster and managing a disaster situation. It is a management plan and set of activities initiated and set in motion with the participation of communities before, during and after a disaster situation.

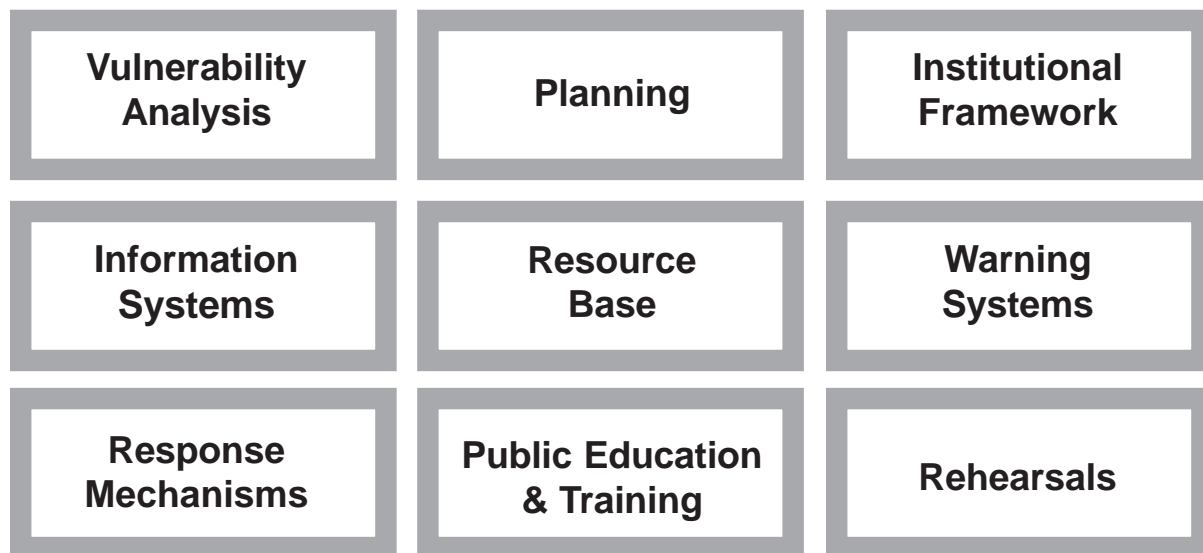
*A community is a group of individuals and households living in the same location and having the same hazard exposure, who can share the same objectives and goals in disaster risk reduction.*<sup>17</sup>

CBDP is steeped in the basic disaster risk reduction framework and covers a broad range of interventions, measures, activities, projects and programs to reduce disaster risks, which are primarily designed by people in at-risk localities and are based on their urgent needs and capacities. Simply put, the aim of CBDM is to:

- 1) Reduce vulnerabilities and increase capacities of vulnerable groups and communities to cope with, prevent or minimize loss and damage to life, property, and the environment
- 2) Minimize human suffering
- 3) Hasten recovery.

In order to carry out Preparedness one needs to take into consideration covering various elements. (Shown in Figure). The aspect of rehearsal is probably the most important element as it ensures that the Preparedness is not only in terms plans but also in terms of implementation. It offers role clarity and as the saying goes, “*Practice makes perfect*”.

#### **Elements of Preparedness**



The Disaster Risk Management Cycle has many cross cutting factors that affect each phase. One of the biggest influences is the media response. In today’s world it is the press, newspapers, radios that bring the news from around the world. At the onset of a disaster one will see a minute-to-minute update of what is going on, but with the passage of time the interest fades as does the coverage and what was once Headlines is now on Page ten of the newspaper in a tiny

column. This entire debate can be continued but what is also important to note is the fact that it is many times the media's attention to a particular issue which gets action-oriented results from the relevant higher-ups. And what cannot be denied is the crucial role the media plays in getting stories across to people around the world.

We have taken a look at the sudden on-set, intermediate on-set disasters and understand the phases that follow through. A drawback of the DRMC is that it does not show the impact and phases of a slow/long on-set disaster like droughts.



# International Frameworks

## The World Joins Hands against Disaster

### Hyogo Framework of Action

The United Nations (UN) International Decade for Natural Disaster Reduction (IDNDR) 1990-1999 started a Global trend of working as one towards reducing the risk that millions faced from natural disasters. Its success resulted in the creation of the International Strategy for Disaster Reduction (ISDR) In January 2005, 168 governments adopted the **Hyogo Framework of Action** at the World Conference on Disaster Reduction, held in Kobe, Hyogo, Japan. The Framework is a 10 year plan, which outlines a framework that the countries can use to create systems to reduce the vulnerability of people to disasters.

The 5 priorities for Action in the Framework are: <sup>18</sup>

<http://www.unisdr.org/eng/hfa/docs/HFA-brochure-English.pdf>

1) Make Disaster risk reduction a priority

**Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.**

**The key to this is making it a collaborative effort, not a competitive one.**

**For example:** Madagascar's National Platform for Disaster Reduction includes a range of Government departments, such as Education, Water, Transport & Communication, Agriculture and Livestock, Land, the Office of the Prime Minister; NGOs; the media; the donor community; and the UN.

2) Know the Risks & Take action

**Identify, assess, and monitor disaster risks - and enhance early warning.**

**For example:** Cuba is one of the best-prepared countries in the Caribbean for the hurricane season. 72 hours before a storm makes landfall, the national media issues alerts, and civil protection committees check evacuation plans. 48 hours before expected landfall, authorities target warnings for high-risk areas. Twelve hours before landfall, homes are secured, neighbourhoods are cleared of loose debris, and people are evacuated. This early warning system has proven its effectiveness. During 2004, when Hurricane Charley hit, 70,000 houses were severely damaged and four people were killed. When Hurricane Ivan struck the following month, over 2 million people were evacuated. No one was killed.

3) Building understanding and Awareness

**Use knowledge, innovation, and education to build a culture of safety and resilience at all levels.**

**For example:** On the island of Simeulue, off the coast of Sumatra, from a population of 83,000 people, only seven people died in the Indian Ocean tsunami. On the nearby mainland, in Aceh, more than 100,000 people were killed. The people of Simeulue have maintained their own local knowledge of earthquakes, which they call. Each generation teaches the early warning signs of natural hazards to the next *smong*

4) Reduce Risks

**Reduce the underlying risk factors.**

**For example:** Unsafe buildings and the lack or non-enforcement of building codes often cause more deaths than natural hazards themselves. In Bam, Iran, more than 30,000 people were killed, and another 30,000 injured, when an earthquake struck the city on 26 December 2003. A major factor contributing to the high death toll was that traditional mud brick buildings crumbled, suffocating the people inside. Practically all of the survivors were left homeless, as 85 per cent of the city's buildings collapsed.

5) Be Prepared & Ready to Act

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

**For example:** On Disaster Prevention Day, held in Japan every year, many people all across the country participate in disaster preparedness drills, involving both emergency workers and the general public.

## Setting Standards

### SPHERE PROJECT<sup>19</sup>

1. **Humanitarian Charter**
  - a. **Principles**
  - b. **Roles & Responsibilities**
  - c. **Common Minimum Standards**
2. **Minimum Standards in Disaster Response**

#### Humanitarian Charter

In 1997 over 400 Humanitarian NGOs in 80 countries and the Red Cross & Red Crescent Movement framed the Humanitarian Charter and identified Minimum Standards to be achieved in disaster assistance in 4 key sectors of a disaster:

1. Water Supply and Sanitation
2. Nutrition & Food Aid (the aspect of Food security was added in the 2004 Edition)
3. Shelter
4. Health Services

The Humanitarian Charter is based upon the Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGOs) in Disaster Relief (*Refer to Annexure for the Code*) and the Principles & Provisions of International Humanitarian Law, International Human Rights Law, and Refugee Law. It delineates Principles that should govern humanitarian action in the situation of a natural or man-made disaster (including armed conflict).

It reaffirms Principles, Roles and Responsibilities of people who are engaged in field work for disaster responses and Common Minimum Standards that should be adhered to in the five key sectors.

## **A. Principles**

**The 3 principles that it reaffirms are:**

### **1) Right to Life with Dignity**

Understanding that every person has the right to an entail that his/her life is safe from harm and also that other people have the duty to ensure the same.

### **2) The distinction between Combatant and Non-combatant**

This principle impresses upon people in the field the need to distinguish between those actively engaged in hostilities and those who are civilians, wounded, sick and prisoners who play no direct part in the violence.

### **3) The Principle of non-refoulement <sup>20</sup>**

Reaffirming that no refugees will be sent back to their country unless, there is a guarantee of their safety.

## **B. Roles & Responsibilities**

This section outlines the understanding that the communities and governing bodies of the country or state have important and crucial roles to play in any disaster. It also outlines the realization that sometimes help offered by external agents (such as humanitarian organizations) might lead to warring sides inflicting more harm on civilians and that such a situation should be minimized, but simultaneously warring sides should respect humanitarian interventions.

## C. Common Minimum Standards

It also outlines 8 common process standards along with their indicators.

1. **Participation**
2. **Initial Assessment**
3. **Response**
4. **Targeting**
5. **Monitoring**
6. **Evaluation**
7. **Aid worker's competencies and responsibilities**
8. **Supervision, Management & Support of Personnel**

*Sphere is based on two core beliefs: first, that all possible steps should be taken to alleviate human suffering arising out of calamity and conflict, and second, that those affected by disaster have a right to life with dignity and therefore a right to assistance. Sphere is three things: a handbook, a broad process of collaboration and an expression of commitment to quality and accountability.*

Cross cutting issues like children, older people, disabled people, gender, protection, HIV/AIDS and the environment have also been given special reference within all sectors.

### Minimum Standards in Disaster Response

The minimum standards for each sector relating to various aspects are given in detail through the Sphere Project handbook. Each country has created its minimum standards based on the context of the country and experience, but using the guidelines given in the handbook.

<b>Key Sector</b>	<b>Issues for which minimum standards are given</b>
Water	Hygiene Promotion, Water Supply, Excreta Disposal, Vector Control, Solid Waste Management and Drainage
Food	Food Security, Nutrition Assessment and Food Aid standards
Shelter	Shelter and Settlement, Non-Food Items: Clothing, Bedding and Household Items
Health	Health Systems, Infrastructure, Control of Communicable Diseases and Non-Communicable Diseases

*(For more information see Annexure 1)*

## Becoming Accountable

### Humanitarian Accountability Partnership (HAP)

**Humanitarianism** is an informal ideology of practice, whereby people practice humane treatment and provide assistance to others; it is *the doctrine that people's duty is to promote human welfare*<sup>21</sup>.

**Humanitarian aid** is material or logistical assistance provided for humanitarian purposes, typically in response to humanitarian crises. The primary objective of humanitarian aid is to save lives, alleviate suffering, and maintain human dignity.<sup>22</sup>

### Humanitarian Accountability Partnership (HAP)

The **Humanitarian Accountability Partnership** is the humanitarian sector's first international self-regulatory body. Its work is based on the findings of the **Humanitarian Accountability Project**, an inter-agency action research initiative that started in 2001. However, the origins of the Partnership go still further back, to the Joint Evaluation of the International Response to the Genocide in Rwanda.<sup>23</sup>

An interagency NGO initiative resulted in the HAP being born to identify, test and recommend a variety of alternative accountability approaches and mechanisms.

#### The HAP Principles of Accountability

1. Commitment to humanitarian standards and rights
2. Setting standards and building capacity
3. Communication
4. Participation in programmes
5. Monitoring and reporting on compliance
6. Addressing complaints  
Implementing partners

# Approaches to study Disaster

Disasters in earlier times used to be believed to be punishment God upon people because of their wrong doings. According to some it was nature's revenge that could cause loss of life and throw a spoke in the wheel of normalcy. But whether it was looked upon as a punishment or nature acting as a balance beam, it has fascinated people. Researchers have been trying to study the impacts and causes of disasters and even create the ideal situation where they could predict them.

Fritz (1961)<sup>24</sup> provided a definition for disasters that showed them in a new light apart from the social pathology<sup>25</sup> that they were largely being looked upon as. *“Disasters provide a realistic laboratory for testing the integration, stamina, and recuperative powers of large scale social systems. They provide the social scientists with advantages that cannot be matched in the study of human behavior in more normal or stable conditions”*.

There have been different approaches that have been used by social scientists to study disasters. Six approaches were identified by Alexander (1993)<sup>26</sup>:

## **Geographical approach**

This was pioneered by Barrows, 1923 and White, 1945 and deals with the human ecological adaptation to the environment with special emphasis on the 'spatio-temporal' (of or relating to space and time together) distribution of hazard impacts, vulnerability and people's choice and adjustment to natural hazards.

## **Anthropological approach**

It emphasizes the role of disasters in guiding the socio-economic evolution of populations (Oliver-Smith, 1979, 1986; Hansen and Oliver-Smith, 1982).

## **Sociological approach**

This approach discusses vulnerability and the impact of disaster upon patterns of human behaviour and the effects of disaster upon community functions and organization. (Dynes, 1970; Quarantelli, 1978; Mileti, Drabek and Haas, 1975; Drabek and Boggs, 1968; Drabek, 1986)

## **Development studies approach**

It highlights the problems of distributing aid and relief to developing countries and focuses on refugee management, health care and the avoidance of starvation. (Davis, 1978; Knott, 1987)

### **Disaster medicine and Epidemiology approach**

The approach focuses on the management of mass casualties. It also includes the treatment of severe physical trauma and other diseases which may occur after a disaster. (Beinin, 1985)

### **Technical approach**

It focuses on geophysical approaches to disaster such as studied in seismology, geomorphology and volcanology and seeks engineering solutions. (Bolt et al. 1977; El-Sabh and Murty, 1988)

The issues of gender were mostly overlooked but today have become a core part of understanding the impacts of a disaster.



# Learning From Disasters & Erasing Myths

Stories about great disasters have come down through the ages mostly by word of mouth from generations. Many of these have either lost their context because of the changing social, economic, cultural and psychological scenarios or they were based on superstition, or simply have add-ons from the in-between years that made them seem almost supernatural.

Rumours and myths have an uncanny way of spreading faster than good news. In this section we will try to clarify some myths and unravel the mysteries that lie behind them.

## Demystifying Myths

**Myth:** Disasters are equal opportunity events; they happen in random and quirky, but essentially democratic ways. <sup>27</sup>Hurricanes, outbreaks, heat waves, earthquakes, and chemical spills kill indiscriminately. They do not care “who” the victim is.

**Fact:** People are more or less vulnerable to the effects of disasters; social class, ethnicity and race, gender, and social connected-ness are factors that often determine the extent of harm. These traits also play an important role in resilience to, and speedier recovery from crisis.

***For Example:** 1995 Chicago (USA) Heat Wave.<sup>28</sup>*

*Between July 13 and July 20, Chicago experienced a record-breaking heat wave that claimed more than 700 lives. Most of the victims were low-income elderly people, living alone, or were abandoned. 73 per cent were 65 years of age or older, a majority of whom were African-American.*

**Myth:** Whether people comply with evacuation plans, isolation and quarantine, or other public health and safety orders is strictly a matter of “personal choice.”

**Fact:** The problem of “non-compliance” has less to do with handling willful, obstinate or ignorant individuals than with rectifying life circumstances that interfere with an ability to act according to authorities’ reasonable requests.

***For Example:** 1918 Spanish Flu pandemic. Some Baltimore city residents berated health officials for curtailing retail business hours to control influenza’s spread: hourly workers lost wages including income to pay for extra heating fuel, an item they considered more critical to protecting their families.<sup>29</sup>*

**Myth:** When life and limb are threatened on a mass scale, people panic. They revert to their savage nature, and social norms readily break down.<sup>30</sup>

**Fact:** According to extensive social research, people rarely fall apart and put themselves first. This finding contradicts what people tend to say on surveys that ask them how they *think* they will behave when disaster hits. In reality, people may feel fearful, anxious and capable of doing just about anything to protect their loved ones. They may be irritable with politicians and safety professionals and ignore their advice when it is irrelevant to their situation. But, contrary to the scary stories authorities tell each other, panic is the exception. Creative coping is the norm.

Ordinary people emerge as innovative problem-solvers who are responsive to the needs of others around them. This pro-social response has been documented by researchers over several decades in countless disasters, and has been bolstered by reports of the reasoned and altruistic responses of those directly affected in the 9/11 attacks and the London bombings. People react in disaster the same way they live: as parents, as co-workers, neighbors, members of faith communities.

**Myth:** Acts of God and Nature are pre-ordained. There is no real way to thwart their ultimate outcome.

**Fact:** Modern disasters are complex, dynamic events. They involve the interaction of multiple systems – society, the built environment, and the natural world. Some amount of alignment within these systems can help reduce disasters though never take them away completely.

**For example:** *The eastern coast of India is susceptible to cyclones and severe flooding every year. If there is a comprehensive programme to prepare people, there can be a reduction in the loss to life and property.*

**Myth:** Dead bodies, left unburied, are a dangerous source of disease epidemics after disasters.

**Fact:** Disaster victims' bodies pose little or no threat to public health. When a person dies, the bacteria and other disease causing agents also die in the body because of a lack of the conducive surroundings. In fact, the body's germs die within a few hours of their host. After the tsunami in Aceh, thousands were hastily buried in mass graves, causing great distress to survivors as well as complicating claims for compensation<sup>31</sup>.

**For Example:** *There have been cases after the tsunami where mass graves were made and a lot of bleach was poured into them, with the idea that the bleach would prevent the spread of diseases. Bleach does not allow bodies to decompose fast and therefore there have been cases where the bodily fluids seeped into the ground contaminating the ground water supply.*

**Myth:** Burying victims quickly in mass graves gives survivors a sense of relief.

**Fact:** Survivors have a strong need to identify lost loved ones and grieve for them in customary ways. It can be traumatic for the survivors not to be able to say their last good-byes to their loved one. A sense of closure is needed for anyone and it is done through a funeral, in most cultures.

**Myth:** Any kind of international assistance is needed, and right away.

**Fact:** A hasty response that is not based on a needs evaluation can contribute to the chaos. It is better to wait until genuine needs have been assessed.

After the tsunami, roads, airports and warehouses were quickly clogged up with inappropriate aid. In India, piles of used clothes littered the streets as fishermen affected by the disaster refused to wear them.

**Myth:** Foreign medical volunteers with any kind of medical background are needed following a disaster.

**Fact:** The local population almost always covers immediate life-saving needs. Only medical personnel with skills that are not available in the affected country are usually needed.

**Myth:** Locating disaster victims in temporary settlements is the best alternative.

**Fact:** It should be the last alternative. Funds may be better spent on building materials, tools, and other construction-related support in the affected country. Many times the temporary settlements become poorly built permanent shelters adding to lowering the quality of life.

**Myth:** Things are back to normal within a few weeks.

**Fact:** The effects of a disaster last a long time. Countries deplete much of their financial and material resources in the immediate post-impact phase. Successful relief operations take account of the fact that donor interest tends to wane as needs and shortages grow more pressing.

## **The constant process of Learning**

What makes humans different? It is our ability to learn from the past and adapt ourselves and our behaviour accordingly. With the occurrence of the innumerable disasters that we have witnessed over the years people have documented the work that has gone in after a disaster and more importantly have listed down the learning of communities, organizations and professionals in the field of disaster.

In an effort to compile learning from the Indian Ocean tsunami of 2004 a project called *Learnings from Tsunami* has been undertaken by Centre for Environment Education (CEE) supported by Oxfam America. Youth from India, Sri Lanka, Indonesia and Maldives are documenting case studies from each country's affected areas and aim to come out with overall learning from each country, which would also contribute to the learning from disasters on a larger scale.

Here we have listed learnings from some of the documentation available with regards to various aspects of disasters.

**a. Targeting**

- **Pro-poor focus:** Even though a disaster might affect all populations, it is the poorer and more vulnerable (elderly, disabled, young, orphaned children, widows, female-headed households) sections of the society that will require a more focused assistance during the relief and recovery phase.
- **Impact on the poor:** Who is actually benefiting from the programmes? Who is being left out? These should be questions uppermost all throughout their planning and implementation of any work.
- **Integration:** Programming should be multi-sectoral and integrated owing to the large diversity of people within communities.

**b. Participation** should be inclusive of the vulnerable sections, community organization, and private sector partners. Improving communication can help and enable informed participation.

**c. Assessment**

- **Well-coordinated assessment:** Assessment needs to be well coordinated between all the actors in the field. If all actors are well coordinated then their efforts need not be duplicated. The second aspect that should be kept in mind that assessment should not be done only once. The situation in the field is changing rapidly and in order to provide assistance that will be appropriate and need-based a timely updation of the assessments should be done at relevant points of time.
- **Joint assessments:** Instead of a piece-meal approach to analyzing the work undertaken during a disaster a joint assessment should be conducted including the host country's government, international agencies and other organizations in active recovery.

**d. Coordinating Strategy:** Governments should produce a coordinated strategy as quickly as possible, including the development of standards- for community participation, and input, seismic upgrading, environmental sustainability, design, transparent and well-communicated categorization of damage and selection criteria, and partial or total provision of housing.

e. **Transparency and accountability:** of any organization towards the community is a must. “*External audit, grievance redressal mechanisms, and oversight boards can be key to guarding against potential corruption.*”

f. **Shelter/ Housing**

- **Ownership:** There should be no assumptions made on the ownership of land and land rights. These issues should be clarified before taking on any re-housing project.
  - **Aspects of housing:** The home is often the place where people not only live in but use as a shelter for livestock, petty trading and handicrafts therefore in terms of its structure, location, seismic safety standards and the cultural appropriateness of the house should be kept in mind.
  - **Temporary Shelters:** Temporary housing most often becomes long-term, poor-quality housing settlements. *Housing agencies should consider options for scaling support over time, including shelter solutions, which can be adapted and built upon later.*
  - **Local capacity:** The use of local labour, builders and materials should be encouraged. People should also be encouraged to participate actively in the reconstruction of their homes, unless they are physically unable to do so.
- g. **Equity:** Joint titling (naming both the husband and wife as joint owners of the property) for women and men should be considered. In many cases in the tsunami rehabilitation organizations have put the house, boats, equipment, and land in the name of the woman of the house or jointly.
- h. **Asset replacement:** Asset replacement could be a huge support for poor people who have lost assets that supported their livelihoods e.g. replacing the cattle that farmers lost because of the disaster. Provision of cash, to support asset replacement should be considered as a part of a holistic recovery response.

**Learnings from Tsunami** In an effort to understand the dynamics of relief operation and gather data to inform future relief efforts, Fritz Institute conducted a study of NGOs and Affected families in all tsunami affected districts of India and Sri Lanka.

**Findings**

- a. The Majority of Rescue and Relief Actors are Local
- b. The Voice of the Affected is an Important Indication of Relief Effectiveness
- c. Lack of Logistical Capacity created critical bottlenecks and the perception of ‘Dumping’
- d. Significant collaboration existed between agencies
- e. Limited role of business
- f. Coordinating role of government is critical

Source: [www.fritzinstitute.org](http://www.fritzinstitute.org)

- i. Coordination:** There should be a high level of coordination between government set up Disaster Management institutions and sectoral ministries like agriculture, fisheries, etc.
- j. Disaster preparedness integration:** A key to effective disaster response lies in disaster preparedness and this should further be integrated into any development programmes being conducted.
- k. Livelihood:** Livelihood strategies need to be diversified to not only include those who are already skilled e.g. masons, plumbers etc. but also the landless, women, youth, and those with disabilities.

The process of learning never ends. What is important though is that the learning is passed on and inculcated into the daily lives of the average person. Learning remains an understanding about what could/might happen, until they are actualized through working towards making communities safer.

# Annexure

## Humanitarian Charter

### Roles and Responsibilities

- 2.1 We recognize that it is firstly through their own efforts that the basic needs of people affected by calamity or armed conflict are met, and we acknowledge the primary role and responsibility of the state to provide assistance when people's capacity to cope has been exceeded.
- 2.2 International law recognizes that those affected are entitled to protection and assistance. It defines legal obligations on states or warring parties to provide such assistance or to allow it to be provided, as well as to prevent and refrain from behaviour that violates fundamental human rights. These rights and obligations are contained in the body of international human rights law, international humanitarian law and refugee law (see sources listed below).
- 2.3 As humanitarian agencies, we define our role in relation to these primary roles and responsibilities. Our role in providing humanitarian assistance reflects the reality that those with primary responsibility are not always able or willing to perform this role themselves. This is sometimes a matter of capacity. Sometimes it constitutes a willful disregard of fundamental legal and ethical obligations, the result of which is much avoidable human suffering.
- 2.4 The frequent failure of warring parties to respect the humanitarian purpose of interventions has shown that the attempt to provide assistance in situations of conflict may potentially render civilians more vulnerable to attack, or may on occasion bring unintended advantage to one or more of the warring parties. We are committed to minimizing any such adverse effects of our interventions in so far as this is consistent with the obligations outlined above. It is the obligation of warring parties to respect the humanitarian nature of such interventions.
- 2.5 In relation to the principles set out above and more generally, we recognize and support the protection and assistance mandates of the International Committee of the Red Cross and of the United Nations High Commissioner for Refugees under international law.

### **The following instruments inform this Charter:**

- *Universal Declaration of Human Rights 1948.*
- *International Covenant on Civil and Political Rights 1966.*
- *International Covenant on Economic, Social and Cultural Rights 1966.*

- *International Convention on the Elimination of All Forms of Racial Discrimination* 1969.
- *The four Geneva Conventions of 1949 and their two Additional Protocols* of 1977.
- *Convention relating to the Status of Refugees 1951 and the Protocol relating to the Status of Refugees* 1967.
- *Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment* 1984.
- *Convention on the Prevention and Punishment of the Crime of Genocide* 1948.
- *Convention on the Rights of the Child* 1989.
- *Convention on the Elimination of All Forms of Discrimination against Women* 1979.
- *Convention relating to the Status of Stateless Persons* 1960.
- Guiding Principles on Internal Displacement 1998.

## The Code of Conduct

Principles of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Response Programmes

1. The humanitarian imperative comes first
2. Aid is given regardless of the race, creed or nationality of the recipients and without adverse distinction of any kind. Aid priorities are calculated on the basis of need alone
3. Aid will not be used to further a particular political or religious standpoint
4. We shall endeavour not to act as instruments of government foreign policy
5. We shall respect culture and custom
6. We shall attempt to build disaster response on local capacities
7. Ways shall be found to involve programme beneficiaries in the management of relief aid
8. Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic needs
9. We hold ourselves accountable to both those we seek to assist and those from whom we accept resources
10. In our information, publicity and advertising activities, we shall recognize disaster victims as dignified humans, not hopeless objects

For the complete Sphere Project Handbook visit: [www.sphereproject.org](http://www.sphereproject.org)

# Acronyms

<b>CBDP</b>	Community Based Disaster Preparedness
<b>CBRN</b>	Chemical Biological Radiological Nuclear
<b>CEE</b>	Centre for Environment Education
<b>CRED</b>	Centre for Research on the Epidemiology of Disaster
<b>DRM</b>	Disaster Risk Management
<b>DRMC</b>	Disaster Risk Management Cycle
<b>GAM</b>	Gerakan Aceh Merdeka (Free Aceh Movement)
<b>HAP</b>	Humanitarian Accountability Practice/ Partnership
<b>IDNDR</b>	International Decade for Natural Disaster Reduction
<b>ISDR</b>	International Strategy for Disaster Reduction
<b>NGO</b>	Non-Government Organization
<b>RCC</b>	Roller Compacted Concrete
<b>SAYEN</b>	South Asia Youth Environment Network
<b>SDC</b>	Swiss Agency for Development and Cooperation
<b>UN</b>	United Nations

# Glossary

**Accountability:** The structuring of programs to increase control and participation by persons in the affected community.

**Asset Replacement:** Replacing those assets that have been destroyed in the disaster and which were essential to the livelihood of the person

**Biological disasters:** Biological disaster is one of the technological disasters caused by microorganisms leading to spread of diseases by pathogenic organisms or toxins

**Civilian:** A civilian under international humanitarian law is a person who is not a member of his or her country's armed forces. The term is also often used colloquially to refer to people who are not members of a particular profession or occupation, especially by law enforcement agencies, which often use rank structures similar to those of military units.<sup>32</sup>

**Cyclone:** In meteorology, a cyclone is an area of low atmospheric pressure characterized by inward spiraling winds that rotate counter clockwise in the northern hemisphere and clockwise in the southern hemisphere of the Earth. In the Atlantic, they are called hurricanes, in the western Pacific they are called typhoons and in Australia and the Indian Ocean they are called cyclones.<sup>33</sup>

**Geological disasters:** A geological disaster occurs when natural geological processes impact on our activities, either through loss of life or injury, or through economic loss e.g. tsunami, earthquake, landslides etc.<sup>34</sup>

**Host country:** A nation which receives aid or supplies from allied nations and/or allows organizations to be located on, to operate in, or to transit through its territory.

**Humanitarian assistance:** Programs conducted to relieve or reduce the results of natural or manmade disasters or other endemic conditions such as human pain, disease, hunger, or privation that might present a serious threat to life or that can result in great damage to or loss of property.

**Intensity:** A subjective measure of the force of an earthquake at a particular place as determined by its effects on persons, structures, and earth materials. Intensity is a measure of effects as contrasted with magnitude, which is a measure of energy.

**Landslides:** Mass movement or sliding of hillsides caused by the ground shaking of earthquakes.

**Magnitude:** A measure of earthquake size that describes the amount of energy released.

**Meteorological disasters:** The study of processes resulting from climate change is based not only on the analysis of air temperature, precipitation and snow cover, but also on extreme weather events (high and low temperatures, sandstorms, heavy snowfall and rainfall, floods, mudflows, avalanches, hailstone falls).<sup>35</sup>

**Needs assessment:** The determination of the needs of the victims. These are usually divided into immediate and long-term needs.

**Riots:** A form of civil disorder characterized by disorganized groups lashing out in a sudden and intense rash of violence, vandalism or other crime.

**Sociological Hazard:** The result of living in a society where there is a lack of space, lack of privacy, too much congestion and overcrowding.

**Subsistence agriculture:** is a method of farming in which farmers plan to grow only enough food to feed the family farming, pay taxes or feudal dues, and perhaps provide a small marketable surplus.

**Technological disaster:** a disaster that results from a technological hazard event

**Technological hazard:** a hazard that originates in accidental or intentional human activity (oil spill, chemical spill, building fires, terrorism, etc.)

**Tsunami:** A sea wave produced by large-area displacements of the ocean bottom, the result of an earthquake or volcanic activity.

**Vulnerability:** A combination of already existing factors that determine or predispose the degree of loss to which someone's life and livelihood is exposed by a discrete and identifiable event in nature or society. The detailing of distinct vulnerability types is indispensable.

# References

## Specific subject-related references

### **CBDP**

<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN009661.pdf>

<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN019566.pdf>

### **Chronological timeline of disasters**

[http://websearch.about.com/gi/dynamic/offsite.htm?zi=1/XJ&sdn=websearch&cdn=com&tm=10&gps=133\\_332\\_1020\\_614&f=10&su=p284.8.150.ip\\_&tt=2&bt=1&bts=1&zu=http%3A/www.geocities.com/freepagesfree/disasters.htm](http://websearch.about.com/gi/dynamic/offsite.htm?zi=1/XJ&sdn=websearch&cdn=com&tm=10&gps=133_332_1020_614&f=10&su=p284.8.150.ip_&tt=2&bt=1&bts=1&zu=http%3A/www.geocities.com/freepagesfree/disasters.htm)

<http://www.geocities.com/freepagesfree/disasters.htm>

### **Classification of Disasters**

Dealing with Disasters, Awareness, Preparedness, Response, An Educators' Manual, Centre for Environment Education, Ahmedabad, 2004

### **Detailed Crunch Release Model**

<http://idea.manizales.unal.edu.co/ProyectosEspeciales/adminIDEA/CentroDocumentacion/DocDigitales/documentos/TerryCannonEMBarcelonaJuly2003.pdf>

### **Disaster Management Cycle**

[http://www.gdrc.org/uem/disasters/1-dm\\_cycle.html](http://www.gdrc.org/uem/disasters/1-dm_cycle.html)

[http://www.eonline.com/EOM\\_Aug05/article.php?Article=feature01](http://www.eonline.com/EOM_Aug05/article.php?Article=feature01)

[http://www.developmentgateway.com.au/jahia/webdav/site/adg/shared/DRMC\\_Torquaid.pdf](http://www.developmentgateway.com.au/jahia/webdav/site/adg/shared/DRMC_Torquaid.pdf)

<http://www.fao.org/docrep/006/ad710e/ad710e03.htm>

### **Disaster Risk Management**

<http://www.unisdr.org/eng/hfa/docs/HFA-brochure-English.pdf>

<http://www.eird.org/index-eng.htm>

### **Disasters**

<http://websearch.about.com/od/effectivesearchstrategies/a/naturaldisaster.htm>

<http://www.unisdr.org/disaster-statistics/introduction.htm>

<http://www.unisdr.org/disaster-statistics/occurrence-trends-century.htm>

### **Disasters over the years & Statistics**

<http://www.cred.be>

<http://www.em-dat.net/documents/pressreleasecred%20jan%202007.pdf>

<http://www.em-dat.net/documents/Annual%20Disaster%20Statistical%20Review%202006.pdf>

<http://www.em-dat.net/documents/Confpress%202006.pdf>

## **Learnings**

[www.fritzinstitute.org](http://www.fritzinstitute.org)

[www.alnap.org/lessons\\_tsunami.htm](http://www.alnap.org/lessons_tsunami.htm)

[www.alnap.org/lessons\\_earthquake.htm](http://www.alnap.org/lessons_earthquake.htm)

[www.alnap.org](http://www.alnap.org)

[www.proventionconsortium.org](http://www.proventionconsortium.org)

## **Myths**

<http://www.rff.org/rff/Events/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=20180>[http://](http://www.paho.org/english/dd/pin/Number21_article01.htm)

[www.paho.org/english/dd/pin/Number21\\_article01.htm](http://www.paho.org/english/dd/pin/Number21_article01.htm)

[www.paho.org](http://www.paho.org)

## **Risk**

<http://www.proventionconsortium.org/?pageid=17>

<http://www.grid.unep.ch/activities/earlywarning/preview/>

<http://enet.iadb.org/idbdocswebservices/idbdocsInternet/IADBPublicDoc.aspx?docnum=465922>

## **Vulnerability**

Oxfam Working Paper ‘Risk-Mapping and Local Capacities: Lessons from Mexico and Central America’

The Crunch and Release models have been adapted from Blaikie P, Canon T, Davis I and Wisner B (1994) *At Risk: Natural Hazards, People’s Vulnerability, and Disasters* London, Routledge

<http://www.columbia.edu/itc/ideo/earthsci/webpage>

(Document: When Disaster strikes what makes the poor vulnerable)

[http://www.eird.org/eng/revista/no\\_13\\_2006/art5.htm](http://www.eird.org/eng/revista/no_13_2006/art5.htm)

<http://radixonline.org/resources/cannon-floods-chapter.doc>

<http://scitation.aip.org/getabs/servlet/>

[GetabsServlet?prog=normal&id=EASPEF0000220000S300S321000001&idtype=cvips&gifs=yes](http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=EASPEF0000220000S300S321000001&idtype=cvips&gifs=yes)

[http://www.benfieldhrc.org/disaster\\_studies/working\\_papers/pdfs/workingpaper2.pdf](http://www.benfieldhrc.org/disaster_studies/working_papers/pdfs/workingpaper2.pdf)

[http://idea.manizales.unal.edu.co/ProyectosEspeciales/adminIDEA/CentroDocumentacion/](http://idea.manizales.unal.edu.co/ProyectosEspeciales/adminIDEA/CentroDocumentacion/DocDigitales/documentos/TerryCannonEMBarcelonaJuly2003.pdf)

[DocDigitales/documentos/TerryCannonEMBarcelonaJuly2003.pdf](http://idea.manizales.unal.edu.co/ProyectosEspeciales/adminIDEA/CentroDocumentacion/DocDigitales/documentos/TerryCannonEMBarcelonaJuly2003.pdf)

## **Widely used terms & their definitions**

<http://www.cdmha.org/>

## End notes

- <sup>1</sup> <http://en.wikipedia.org/wiki/Disaster>
- <sup>2</sup> <http://aklanforum.blogspot.com/2007/09/boracay-palawan-worst-hit-by-coconut.html>
- <sup>3</sup> [http://en.wikipedia.org/wiki/Man-made\\_hazards](http://en.wikipedia.org/wiki/Man-made_hazards)
- <sup>4</sup> [http://en.wikipedia.org/wiki/Mining\\_disasters](http://en.wikipedia.org/wiki/Mining_disasters)
- <sup>5</sup> [http://en.wikipedia.org/wiki/List\\_of\\_bridge\\_disasters](http://en.wikipedia.org/wiki/List_of_bridge_disasters)
- <sup>6</sup> [http://en.wikipedia.org/wiki/New\\_York\\_City\\_blackout\\_of\\_1977](http://en.wikipedia.org/wiki/New_York_City_blackout_of_1977)
- <sup>7</sup> [http://en.wikipedia.org/wiki/2007\\_Greek\\_forest\\_fires](http://en.wikipedia.org/wiki/2007_Greek_forest_fires)
- <sup>8</sup> [http://en.wikipedia.org/wiki/Japan\\_Airlines\\_Flight\\_123](http://en.wikipedia.org/wiki/Japan_Airlines_Flight_123)
- <sup>9</sup> [http://en.wikipedia.org/wiki/Tenerife\\_disaster](http://en.wikipedia.org/wiki/Tenerife_disaster)
- <sup>10</sup> [http://en.wikipedia.org/wiki/Space\\_Shuttle\\_Columbia](http://en.wikipedia.org/wiki/Space_Shuttle_Columbia)
- <sup>11</sup> [http://en.wikipedia.org/wiki/Sarin\\_gas\\_attack\\_on\\_the\\_Tokyo\\_subway](http://en.wikipedia.org/wiki/Sarin_gas_attack_on_the_Tokyo_subway)
- <sup>12</sup> [http://en.wikipedia.org/wiki/Riot#Notable\\_riots](http://en.wikipedia.org/wiki/Riot#Notable_riots)
- <sup>13</sup> <http://idea.manizales.unal.edu.co/ProyectosEspeciales/adminIDEA/CentroDocumentacion/DocDigitales/documentos/TerryCannonEMBarcelonaJuly2003.pdf>
- <sup>14</sup> <http://www.enotes.com/famous-quotes/a-comfortable-house-is-a-great-source-of-happiness>
- <sup>15</sup> [http://www.uncrd.or.jp/hs/01i\\_ttc2/doc/01i\\_m1\\_05panda\\_ppt.pdf](http://www.uncrd.or.jp/hs/01i_ttc2/doc/01i_m1_05panda_ppt.pdf)
- <sup>16</sup> [http://en.wikipedia.org/wiki/Emergency\\_management#Mitigation](http://en.wikipedia.org/wiki/Emergency_management#Mitigation)
- <sup>17</sup> <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN009661.pdf>
- <sup>18</sup> <http://www.unisdr.org/eng/hfa/docs/HFA-brochure-English.pdf>
- <sup>19</sup> <http://www.sphereproject.org/handbook/>
- <sup>20</sup> **Non-Refoulement.** This is the principle that no refugee shall be sent (back) to a country in which his or her life or freedom would be threatened on account of race, religion, nationality, membership of a particular social group or political opinion; or where there are substantial grounds for believing that s/ he would be in danger of being subjected to torture. (Article 33 of the *Convention on the Status of Refugees* 1951; Article 3 of the *Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment* 1984; Article 22 of the *Convention on the Rights of the Child* 1989.
- <sup>21</sup> [http://en.wikipedia.org/wiki/Humanitarianism#\\_note-](http://en.wikipedia.org/wiki/Humanitarianism#_note-)
- <sup>22</sup> [http://en.wikipedia.org/wiki/Humanitarian\\_aid](http://en.wikipedia.org/wiki/Humanitarian_aid)
- <sup>23</sup> Borton J. et al, *The International Response to Conflict and Genocide: Lessons from the Rwanda Experience - Humanitarian Aid and Effects.* (1996) Copenhagen  
<http://www.hapinternational.org/en/page.php?IDpage=1&IDcat=10>
- <sup>24</sup> <http://www.bangladeshsociology.org/Nasreen%20-%20Sociology%20of%20Disaster,%20PDF.pdf>

<sup>25</sup> “Many contemporary social problems are global in nature and are shared by many countries.” Social pathologies “Often lead to a flood of social, economic and psychological problems that undermine well-being.”

<sup>26</sup> [http://www.qcsr.uq.edu.au/template/Context/Societal%20Organisation/Social%20Pathology\\_Intro.htm](http://www.qcsr.uq.edu.au/template/Context/Societal%20Organisation/Social%20Pathology_Intro.htm)

Alexander, David. 1993. *Natural Disasters* London: UCL Press.

<sup>27</sup> <http://www.rff.org/rff/Events/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=20180>

**Further References:** Walter Peacock. *Consequences of Disaster Myths*, 30th Annual Hazards Research and Applications Workshop, Boulder, CO, July 12, 2005.

<sup>28</sup> <http://www.rff.org/rff/Events/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=20180>

**Further references:** Eric Klinenberg. *Heat Wave: A Social Autopsy of Disaster in Chicago*. Chicago, IL: University of Chicago Press; 2002.

<sup>29</sup> <http://www.rff.org/rff/Events/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=20180>

**Further References:** Monica Schoch-Spana. Psychosocial consequences of a catastrophic outbreak of disease: Lessons from the 1918 pandemic influenza. In: Robert Ursano, Ann Norwood, and Carol Fullerton, eds. *Bioterrorism: Psychological and Public Health Interventions*. New York: Cambridge University Press; 2004, pp. 38-55.

<sup>30</sup> <http://www.rff.org/rff/Events/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=20180>

**Further References:** Lee Clarke. Panic: Myth or reality? *Contexts* 2002; Fall: 21–6. E.L. Quarantelli. The sociology of panic. In: Smelser N, Baltes PB, eds. *International encyclopedia of the social and behavioral sciences*. New York: Pergamon Press; 2001:11020–30.

Henry W. Fischer. *Response to disaster: Fact versus fiction and its perpetuation*. Lanham, MD: University Press of America; 1994.

Russell R. Dynes and Kathleen J. Tierney, eds. *Disasters, collective behavior and social organization* Newark, DE: University of Delaware Press; 1994.

Tom Glass. Workshop remarks, *Citizens' Information Needs in Responding to Disaster*. Computer Science and Telecommunications Board of the NAS/National Research Council, Washington, DC, July 19, 2005.

Russell R. Dynes. Community emergency planning: false assumptions and inappropriate analogies.

*International Journal of Mass Emergencies and Disasters* 1994; 12 (2):141-158.

<sup>31</sup> <http://www.redcross.ca/article.asp?id=014865&tid=001>

<sup>32</sup> <http://en.wikipedia.org/wiki/Civilians>

<sup>33</sup> <http://en.wikipedia.org/wiki/Cyclone>

<sup>34</sup> [http://www.heritage.nf.ca/environment/geo\\_hazards.html](http://www.heritage.nf.ca/environment/geo_hazards.html)

<sup>35</sup> [http://enrin.grida.no/htmls/tadjik/vitalgraphics/eng/html/text\\_c7.htm](http://enrin.grida.no/htmls/tadjik/vitalgraphics/eng/html/text_c7.htm)

### **Centre for Environment Education (CEE)**

The Centre for Environment Education (CEE) was established in August 1984 as a Centre of Excellence supported by the Ministry of Environment and Forests, Government of India, and affiliated to the Nehru Foundation for Development (NFD). CEE's primary objective is to improve public awareness and understanding of environmental issues with a view to promote the conservation and wise use of nature and natural resources. To this end, CEE not only creates expertise in the field of environmental education, but also develops innovative programmes and educational materials, testing them for validity and effectiveness. These programmes and materials are designed flexibly to permit suitable adaptation for use across the country.

### **South Asia Youth Environment Network (SAYEN)**

South Asia Youth Environment Network (SAYEN – [www.sayen.org](http://www.sayen.org)) was set up in July 2002. Supported by the UNEP Asia and the Pacific, SAYEN is linked to TUNZA, UNEP's strategy for children and youth. CEE hosts the Secretariat of SAYEN, which has membership from all the SAARC countries. One-two organizations in each of the SAARC countries have been identified as the National Focal Points (NFPs) for the network. The number of SAYEN members in each country ranges from 20 to 100 with over 1500 youth organizations, individual, national and international agencies including Government in the region associated with SAYEN. NFPs facilitate SAYEN activities in their respective countries.



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