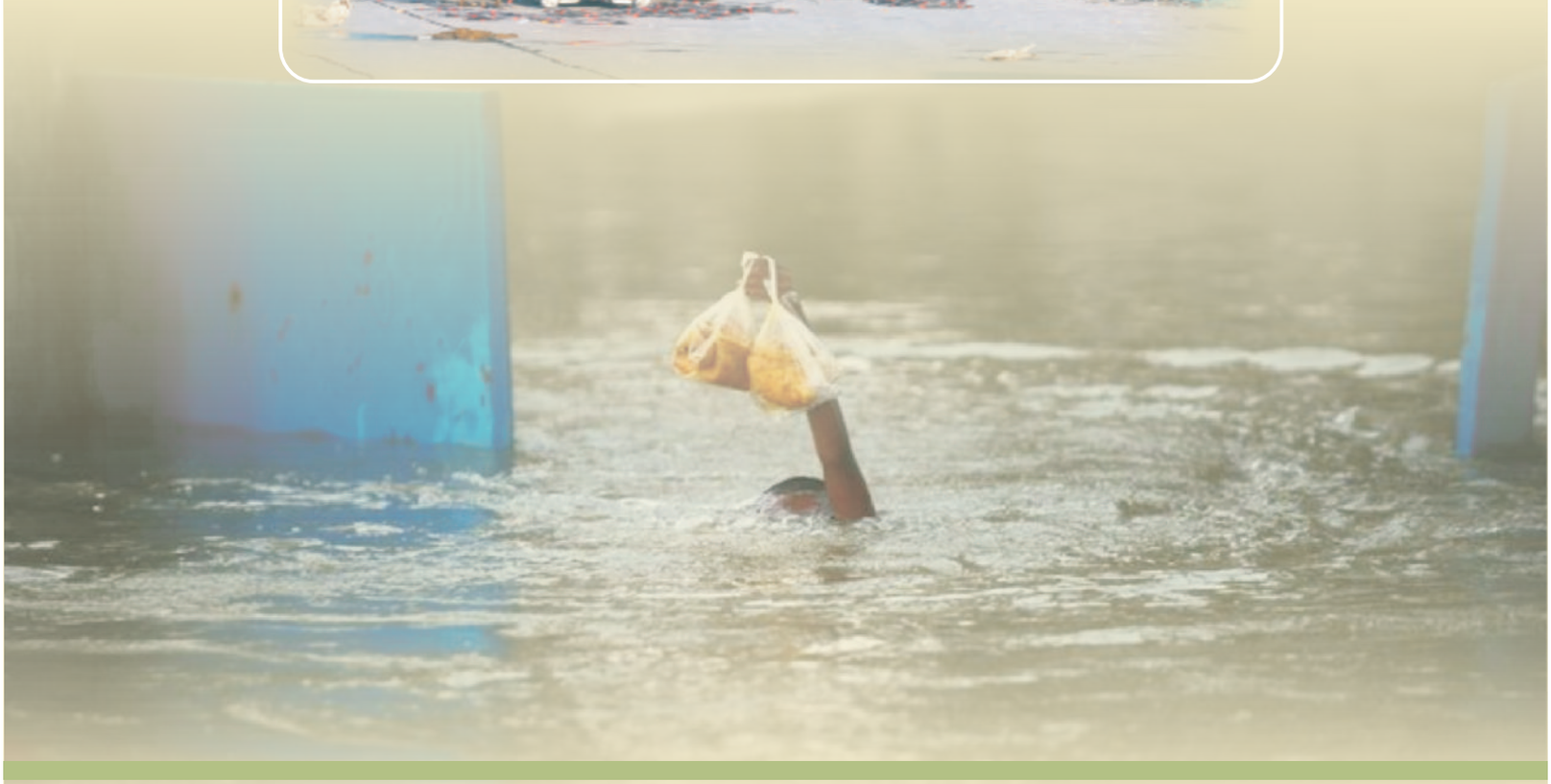
DISASTER REPORTING

HANDBOOK



Disaster Reporting Handbook

Published by: One UN Disaster Risk Management Joint Programme, UNDP/NDMA Pakistan

Compilation / Editing: Irfan Maqbool, Falak Nawaz

Proof Reading: Sameer Luqman Qureshi

Cover & Layout Design: Muhammad Saeed

Printed by: SkyHail, Islamabad

Copyright © 2011

The Disaster Reporting Handbook can be downloaded at *www.ndma.gov.pk* and *www.undp.org.pk*

National Disaster Management Authority - Pakistan

Prime Minister's Secretariat,
Islamabad - Pakistan

Ph: +92-51-9206544
Fax: +92-51-9213082

URL: *www.ndma.gov.pk*

United Nations Development Programme - Pakistan

House No. 124, Street No. 11, Sector E-7,
Islamabad - Pakistan

Ph: +92-51-2652840
Fax: +92-51-2652536

URL: *www.undp.org.pk*

Introduction

In wake of any disaster, timely and credible information plays pivotal role for an informed response, early recovery, rehabilitation, reconstruction, and long-term mitigation measures. Although, quite a number of humanitarian agencies and public sector departments continue providing a variety of information to various stakeholders but it carries a potential risk of being less objective and a little biased which may result in misleading the whole process. It is in this context that the role of media in disaster risk management has been argued over the last two decades the world over.

Disaster risk communication or disaster reporting by print and electronic media at various stages not only provides disaster managers with necessary information for better preparedness and timely response but also empowers hazard-prone communities to hold public and private entities accountable, which is the linchpin of sustainable disaster risk management.

The National Disaster Management Authority (NDMA), with support from United Nations Development Programme (UNDP), is currently implementing a 2-year project under One-UN DRM Joint Programme which seeks to strengthen the national disaster risk management system through policy-level inputs, research, capacity building, and community based initiatives. One of the activities includes imparting training on disaster reporting to correspondents of print and electronic media based in vulnerable districts across Pakistan.

The main objective of the training course is to enhance the reporting capacities of journalists by imparting essential disaster reporting skills and techniques.

The Disaster Reporting Handbook is comprised of quick tips and suggestions every reporter would need at or before the time of any disaster.

We have benefited from the material on media and disasters produced by various organizations, especially Duryog Nivaran and UN-ISDR during the process of compiling the handbook. We are thankful to all of them.

Acronyms

ABC	American Broadcasting Company
ADPC	Asian Disaster Preparedness Centre
AJK	Azad Jammu & Kashmir
CNN	Cable News Network
CBDRM	Community Based Disaster Risk Management
CM	Chief Minister
CBO	Community Based Organization
CIDI	Center for International Disaster Information
CNG	Compressed Natural Gas
DC	Deputy Commissioner
DRM	Disaster Risk Management
DDMA	District Disaster Management Authority
DPO	District Police Officer
DG	Director General
DDRMP	District Disaster Risk Management Plan
DCO	District Coordination Officer
DMA	Disaster Management Authority
DRR	Disaster Risk Reduction
D.I. Khan	Dera Ismail Khan
EDO	Executive District Officer
EWS	Early Warning System
FM	Frequency Modulation
FEMA	Federal Emergency Management Agency
GLOF	Glacial Lake Outburst Flood
IDNDR	International Decade for Natural Disaster Reduction
IUCN	International Union for Conservation of Nature
INGO	International Non Governmental Organization
JCSC	Joint Chief of Staff Committee
KPK	Khyber Pakhtunkhwa
MIC	Methyl Isocyanate
MTV	Music Television
MNC	Multinational Corporation
MAF	Million Acre Feet
NGO	Non Governmental Organization
NDMC	National Disaster Management Commission
NDMA	National Disaster Management Authority
NDMO	National Disaster Management Ordinance
NEOC	National Emergency Operation Centre
NWRDPP	National Water Resources Development Programme
PDMA	Provincial Disaster Management Authority
PDMC	Provincial Disaster Management Commission
SOP	Standing Operating Procedures
UNISDR	United Nation International Strategy for Disaster Reduction
USAID	United States Agency for International Development
UN	United Nations
UNDP	United Nations Development Programme
USA	United States of America
USD	United States Dollar
UCC	Union Carbide Company
WWF	World Wide Fund for Nature

Table of Contents

Page No.

Introduction ..... **i**

Acronyms ..... **ii**

1. Disaster Reporting Context **1**

- Annenberg Washington Program 2
- The Tampere Declaration on Disaster Communication 2
- IDNDR Yokohama Conference 3

2. Dividends of Disaster Reporting **5**

- Tropical Cyclones in Bangladesh 6
- Tsunami Relief Asia- Africa (2004) 6
- Hurricane Katrina-USA (2005) 7
- Cyanide Pollution- Szamos Tisa (2000) 7
- Bhopal Disaster-India (1984)..... 9

3. Phases of Disaster Reporting **11**

- Non-Disaster Phase 12
- Pre-Disaster Phase 13
- During-Disaster Phase..... 14
- Post-Disaster Phase 16

4. Basics of Disaster Reporting **18**

- Writing Basics 19
- Article Organization 19
- Clarity 20
- Sources 21
- Writing Style 22

5. Understanding Key Disaster Issues for Effective Reporting **23**

- Hazard Identification 24
- Risk Assessment / Communication 24
- Avoidance Measures 24

- Early Warning 25

6. Code of Conduct on Images and Messages 26

7. Useful Disaster-Related Information for Journalists 29

- Disaster Management Terminologies 30
- Salient Features of National Disaster Management Ordinance, 2006 37
- National Disaster Management Framework 39
- Summary of National Risk Profile 42
- Priorities of Hyogo Framework for Action 47
- Implementation and Follow-Up 55
- Important Contact Numbers 61

Disaster Reporting Context

Disaster Reporting Context

To discuss and review the state of the art in disaster reporting and media perceptions, Committee on Disasters and the Mass Media of the National Academy of Science, National Research Council organized a workshop in February 1979 in Washington DC.

It found that there had been minimal research on disaster reporting, and that most of the existing studies had concentrated on media activities in disaster warning or immediate post disaster periods. The workshop proceedings noted that conventional wisdom rather than scientific measurement is the basis for most assessments of the mass media's performance in times of disasters.

Shortly after the workshop, the Australian Counter Disaster College formed a Study Group that drafted following guidelines for media persons in relation to disasters:

- Inform the public on various matters to raise their level of preparedness.
- Inform the public about the current situation.
- Inform the public about what has happened.
- Inform the public about the prognosis or diagnosis.
- Advise the public on the courses of action appropriate to the event.
- Advise the public on the action being taken by authorities and aid groups.
- Relay messages concerning the welfare of isolated groups within the community.
- Maintain reassuring presence.

During 1980-95, a number of meetings were held and publications came out for enhancing the understanding on disaster risk communication. Following are considered to be some significant developments:

Annenberg Washington Program

In October 1986, the Annenberg Washington Program organized a workshop on Global Disasters and International Information Flows, which aimed at exploring the more effective use of communications in response to the release of radioactive material at the Chernobyl and Three Mile Island nuclear power stations, and other natural and man-made disasters. Since then the Program has organized discussions and produced papers on media-disaster linkages. Some of them include: The Mitigation and Management of Sudden Catastrophe; Lessons in Emergency; Communication of Disasters from the Disasters of 1988; Conference on Disaster Communication in Tampere; Media, Disaster Relief and Images of the Developing World; and The Media, Scientific Information and Disasters.

The Tampere Declaration on Disaster Communication

In a 3-day conference on International Disaster Communications: Harnessing the Power of Communications to Avert Disasters and Save Lives, experts from 25 countries met in Tampere, Finland. After extensive

deliberations, they agreed to the Tampere Declaration on Disaster Communications, which addresses the urgent need to coordinate and improve national and international communications capabilities to reduce loss of life and damage to property and the environment due to human induced and natural disasters.

IDNDR Yokohama Conference

The International Decade for Natural Disaster Reduction (IDNDR) Secretariat convened an international roundtable on The Media, Scientific Information and Disasters at the United Nations World Conference on Natural Disaster Reduction in Yokohama, Japan, in 1994. It examined important issues about the roles of, and the relationship between the media, scientists, relief organizations, and government officials, in generating, transmitting, and responding to disaster-related information. Its conclusions and recommendations set out two key principles and some specific recommendations.

Principles

- The media throughout the world play a vital role in educating the public about disasters, warning of hazards, gathering and transmitting information about affected areas, alerting government officials, relief organizations and the public to specific needs, and facilitating discussions about disaster preparedness and response.

- Timely, accurate and sensitive communications in the face of natural hazards are demonstrated, cost-effective means of saving lives, reducing property damage, and increasing public understanding. Such communications can educate, warn, inform and empower people to take practical steps to protect themselves from natural hazards.

Recommendations

Scientific and disaster mitigation organizations should seek to develop working relationships with the media based on mutual trust and the recognition of different characteristics, goals, and needs. Regular, effective communication between these groups, before, during and after disaster events can greatly enhance those relationships.

- Disaster mitigation organizations should seek to provide reliable information to the media, as early as possible, in a concise and readily understandable form, and linked, where possible, to newsworthy events.

- Disaster mitigation organizations should seek to identify and communicate specific themes and messages, both through the mass media and in other alternative forms of communication.

- The media and disaster mitigation organizations should take advantage of opportunities to work together and to provide relevant training for reporters and field personnel to enhance disaster preparedness, mitigation and relief efforts and the timeliness, quality, and accuracy of reporting about natural hazards.

- Media organizations should address disaster prevention and reduction in coverage relating to disasters. Disaster mitigation organizations and the media should identify and communicate the public-specific measures that have either succeeded or failed to reduce the impact of natural hazards.

- Media organizations are encouraged to evaluate their reporting about natural hazards and disaster preparedness, and, where appropriate, to work with disaster mitigation organizations to improve the quality, accuracy, and thoroughness of such reporting.

- The outcome of the conference was the Yokohama Strategy and Plan of Action for a Safer World, which suggested to:

    - Establish and implement educational and information programmes aimed at generating general public awareness, with special emphasis on policy makers and major groups in order to ensure support for, and the effectiveness of, disaster reduction programmes.

    - Enroll the media as a contributing factor in awareness raising, education and opinion building in order to increase recognition of the potential of disaster reduction to save human lives and protect property.

    - Collect and disseminate documentation and information to improve public awareness of natural disasters and the potential for reducing their impacts.

Dividends of Disaster Reporting

Dividends of Disaster Reporting

Media plays a pivotal role in saving lives of people, as it carries a great capacity to influence the role that holds society together and serves as a forum for public and community interactions.

Following are some case studies from around the world highlighting significance of disaster reporting.

Tropical Cyclones in Bangladesh

In November 1970, a tropical cyclone combined with a high tide struck southern Bangladesh, leaving more than 300,000 people dead and 1.3 million homeless. In May 1985, a comparably cyclone and storm surge hit the same area. This time, according to IDNDR Director Dr. Olavi Elo, there was better local dissemination of disaster warnings and the people were better prepared to respond to them. The loss of life, although still high, was 10,000 or about 3 percent of that of 1970. When a devastating cyclone struck the same area of Bangladesh in May 1994, fewer than 1000 people died. The dramatic difference, according to Mohammad Saeed-ur-Rehman, Director of the Bangladesh Disaster Preparedness Centre, was the introduction of new early warning system that allows radio stations to alert people in low-lying areas. Mr. Rehman maintained the 'media did wonderful work'.

Researchers have noted the remarkably different impacts of the 1977 cyclone in Andhra Pradesh, India, which killed 10,000 people, and a similar storm in the same area 13 years later, which killed 910. In the later case, risk communication was effective.

Tsunami Relief Asia- Africa (2004)

In December 2004, a massive tsunami created by an earthquake hit Asia and Africa, devastating many coastal areas. Nearly 200,000 people in eight countries perished, while many more went missing. Over a million people were displaced, as their homes and livelihoods were swept away. Committed to assisting the victims of the tragedy, the Center for International Disaster Information (CIDI), quickly responded to the public's desire to help and educate Americans on how to provide the most effective relief by contributing cash donations.

To educate the public about the importance of cash donations, CIDI distributed comprehensive situation reports outlining specific information about how to participate in tsunami relief efforts. CIDI partnered with Global Giving to launch a joint web page with cash donation information and coordinated with the U.S. Chamber of Commerce to design a private sector partnership link to cidi.org.

Providing disaster relief guidance to the State Department, USAID and other government offices, CIDI coordinated with the Global Development Alliance, USA Freedom Corps and Volunteers for Prosperity.

To further promote the "cash is best" message, CIDI reached out to media with the "Guidelines for Appropriate International Disaster Donations" which resulted in coverage by CNN, National Public Radio, People Magazine, USA Today, Washington Post, MTV.com and ABC Radio. A radio news release garnered an estimated 9.3 million impressions and a video news release reached more than 2.3 million viewers. Media were encouraged to visit cidi.org and call the CIDI hotline for more information about tsunami relief efforts.

As a result of increased media exposure and strategic alignment with reputable relief organizations, CIDI received more than 150,000 hits to its website in January 2005, a nearly 3000 percent increase over the average 5,000 hit per month and responded to more than 6,200 inquiries from the CIDI hotline. As a result of tsunami relief efforts, more than 4,500 individuals registered to offer technical assistance through the CIDI database.

Hurricane Katrina-USA (2005)

Hurricane Katrina was born on 23 August 2005 and became the sixth-strongest Atlantic hurricane ever recorded. Katrina killed 1,836 people and caused an estimated US$ 81.2 billion in damage, devastating much of the north-central Gulf Coast of the United States.

Katrina prompted widespread criticism of the federal, state and local governments' reaction to the storm, whilst the National Hurricane Center and National Weather Service were commended for accurate forecasts and abundant lead time.

Hurricane Katrina illustrates how responsible reporting and coverage of events play a major role in promoting urban security and safety. The media backed the perception of poor governmental response to Katrina and showed the subsequent crime and violence in New Orleans. The media also suggested that the impact of the hurricane had been predicted and disaster could have been largely avoided through better preparedness.

The coverage helped challenge the widespread belief that natural disasters are neither 'human made' nor 'predictable' and also prompted an investigation by the United States Congress and a review of the US Army Corps of Engineers for the failure of New Orleans' levee protection system. Of all regions, the Americas experience the greatest economic loss from natural disasters. Windstorms, including hurricanes and tornadoes, are the most frequent type of disaster, which affect the greatest number of people and cause the highest total economic costs. Windstorms can also trigger flooding and landslides, the former causing the greatest number of deaths for any disaster type in the region.

Cyanide Pollution- Szamos Tisa (2000)

The cyanide pollution of the rivers Szamos and Tisza was caused by AURUL, an Australian-Romanian joint venture that is situated in Romania's Baia Mare (Nagybanya) region. The company extracts non-ferrous metals from waste rock piles of area mines, using metal enrichment technologies, which are carried out basically by extraction with cyanide after the waste ore has been ground.

The extraction process requires a lot of water. Consequently, the used water is stored, then used once again in the extraction process. The environmental damage that spread over to Hungary was the result of the rupture of the reservoir dam containing cyanide-laced water.

The extraordinary event took place at 10 pm. on the 30th of January 2000, and as a consequence almost 100 thousand m3 of waste water with a high concentration of cyanide was discharged into the Zazar and Lápos waterways that belong to the catchment area of the Szamos River. The burst reservoir was finally repaired on January 31st, and thus the wastewater discharge into the watercourses stopped.

The Romanian environmental and water authorities kept Hungarian authorities informed on the event and degree of pollution. On February 7th, Romanian authorities reported a second cyanide spill. It happened in a location close to the first one. Fortunately, it was much less serious than the previous event, although in some places the concentration of cyanide exceeded the permissible limit by a factor of sixty. The first official Romanian information came at 6:20 pm. and identified the concentration of cyanide in the Lápos watercourse as 19.16 mg/l at 2 pm. on 31st January, 2000.

The polluted water crossed the border at Csenger at 4 pm. on February 1st, the highest concentration was 32.6 mg/l (8:30 pm.). The average concentration according to the data of the Hungarian environmental laboratories was 18 mg /l in six-hour run-off interval, which is 180 times more than the level of the “very polluted” category according to the Hungarian standards for surface waters. The extremely critical water pollution was worsened due to the meteorological situation of the time (ice on the rivers, low flow rate) and as a consequence the pollution could not dilute rapidly. To make matters worse the cyanide pollution was accompanied by a significant increase in the concentration of heavy metals in the water. The concentration of copper rose to 40-160 times the level classified as “very polluted,” while the concentration of zinc doubled and that of lead increased to 5-9 times the “much polluted” level.

The polluted water plume reached the Tisza River at 4 am. on February 3rd, where the concentration of cyanide decreased to 12.5 mg/l peak value as a result of natural dilution. The polluted water reached the boundaries of Szolnok, one of the potentially threatened cities where drinking water is extracted directly from the river and then treated, at 6 p.m. on February 8th at which time the highest concentration measured 2.85 mg/l.The contamination plume traveled for twelve days within Hungarian territory, leaving only in the early morning on February 12th, at which time it crossed over the border with Yugoslavia and began polluting the Yugoslavian part of the Tisza and the Danube.

Immediately after the disaster, preliminary information went only to the Ministry of the Environment, and came partly from the Romanian partner and partly from the concerned Hungarian environmental inspectorates. Nearly a week lasted from the time the water reservoir broke in Romania to the time the Hungarian public was informed, but still not fully aware of the magnitude nor the nature of the disaster. Pál Pepo the Environmental Minister in office at that time (a couple months later he was forced to resign) had enormous personal responsibility in this dearth of action, because he failed to recognize both the importance of the event and the measures needed.

Hungarian environmental organizations summarized the Minister's faults in their letter stating:

- He failed to take immediate action in response to the catastrophe
- He failed to classify the region as a special region in accordance with the Catastrophe Act
- He failed to address Parliament on the matter and he did not inform the legislature
- He failed to contact the Ministry of Foreign Affairs in time in order to take necessary steps
- He failed to inform the European Union and the embassies of Danube countries
- He failed to hold an international press conference
- He failed to establish a crisis board
- He failed to inform the public
- He failed to propose that the government establish an interdepartmental committee
- He failed to open the Ministry of Environment's official allocation for emergency and disasters in order to promote and ease the elimination of damages
- He failed to seek cooperation with scientists and NGOs
- It took him more than a week before he traveled to the scene of the disaster to inquire about the damages caused

Hungarian press followed the events, as soon as the importance was realized. Naturally, information was not forthcoming from the Romanian side. Consequently, while the poison flume continued down river and killed masses of fish, the print and electronic media could produce only pictures of dead fish and report on desperate interviews with local people begging for answers.

At this point, the Western European press took the lead. Swedish State television brought out its first documentary report on February 7th. The Swedish public was especially sensitive to this topic because of the similar case of a Swedish Company in Spain. Soon thereafter, Western journalists flooded Hungary, and showed curiosity for extraofficial opinions. That week WWF-Hungary and other concerned Hungarian NGOs gave numerous interviews to foreign journalists.

Bhopal Disaster-India (1984)

Developing countries are particularly vulnerable on many accounts as they lack the infrastructure (e.g. communication, training, education etc.) required to maintain technology but are nevertheless, eager to set up and maintain industrial plants. As a result, they compete globally to attract multinational companies for their investment and capital, and in this process, often tend to ignore the safety and health violations that many MNC's engage in.

The Bhopal facility was part of India's Green Revolution aimed to increase the productivity of crops. Considered an essential factor in the effort to achieve self sufficiency in agricultural production, pesticide

production use increased dramatically during the late 1960's and early 1970's. The decision to manufacture the pesticides in India, as opposed to relying on imports was based on India's goal of preserving foreign exchange and its policy of industrialization (Cassels, p.39). In 1969, Union Carbide (UCC-the parent company) set up a small plant (Union Carbide India Ltd. - UCIL) in Bhopal, the capital city of Madhya Pradesh, to formulate pesticides. Bhopal was chosen as the site for the Carbide plant because of it's central location in India, a railway system that spanned the country, a large lake which provided a reliable source of water, and sufficient electricity and labor to sustain a large scale industrial plant.

According to others, Bhopal is the site of the greatest industrial disaster in history. On the night of December 23, 1984, a dangerous chemical reaction occurred in the Union Carbide factory when a large amount of water got into the MIC storage tank # 610. The leak was first detected by workers about 11:30 p.m. when their eyes began to tear and burn. They informed their supervisor who failed to take action until it was too late. In that time, a large amount, about 40 tons of Methyl Isocyanate (MIC), poured out of the tank for nearly two hours and escaped into the air, spreading within eight kilometers downwind, over the city of nearly 900,000. Thousands of people were killed (estimates ranging as high as 4,000) in their sleep or as they fled in terror, and hundreds of thousands remain injured or affected (estimates range as high as 400,000) to this day. The most seriously affected areas were the densely populated shanty towns immediately surrounding the plant -- Jayaprakash Nagar, Kazi Camp, Chola Kenchi, and the Railway Colony. The victims were almost entirely the poorest members of the population.

This poisonous gas caused death and left the survivors with lingering disability and diseases. Not much is known about the future medical damage of MIC, but according to an international medical commission, the victims suffer from serious health problems that are being misdiagnosed or ignored by local doctors.

The Bhopal disaster was the result of a combination of legal, technological, organizational, and human errors. The immediate cause of the chemical reaction was the seepage of water (500 liters) into the MIC storage tank. The results of this reaction were exacerbated by the failure of containment and safety measures and by a complete absence of community information and emergency procedures. The long term effects were made worse by the absence of systems to care for and compensate the victims.

Furthermore, safety standards and maintenance procedures at the plant had been deteriorating and ignored for months.

Ironically, in Bhopal, the people living around the Union Carbide plant were warned of potential hazards in a series of local newspaper articles, but residents ignored these warnings because they did not know how to react to them, while local officials dismissed them as sensationalist reporting.

Estimates of the number dead and injured vary widely. Poor documentation, mass burials and cremations, and conflicting medical opinions ensure that the precise number will never be known. In addition, death records may not include homeless and transient individuals who perished. The original count of the dead was more than 2,000. By 1987, the official death toll stood at about 3,500 and by 1992, it was over 4,000. Victims' organizations placed the figure many thousands higher. In addition, 30,000 to 40,000 people were maimed and seriously injured, and 200,000 were otherwise affected through minor injury, death of a family member, and economic and social dislocation.

Phases of Disaster Reporting

Phases of Disaster Reporting

Reporting for disaster risk management should be an inherent part of journalism curriculum and media discourse. Information reduces risk and journalism training and communication strategies should always be geared towards improving the ability of media to communicate with a purpose.

But in high risk areas a journalist must focus on educating people and even authorities responsible for disaster prevention, mitigation, response and rehabilitation.

E. C Parker recommends that in covering disasters reporters should provide calm, clear, specific, explanatory explanation, free of speculations. The aim should never be to sensationalize but rather to make people understand what has happened and to give them perspective on the scope of catastrophe, its causes, and its foreseeable results. If help is needed it should not be called for in general terms. The media should specify the aid required and how it should be delivered.

Origin of News Stories

There are essentially three origins of a news story:

- Disaster events such as floods, earthquakes, fires, and planes crashes: These events are believed to be inherently unpredictable by the media and journalists respond after the occurrence. News stories about disasters follow a predictable pattern. Early reports, which frequently over estimate the severity of the disaster rely on ordinary people because they are frequently the only witness. Later stories, assuming the story is newsworthy enough become developing news over several days. For post-occurrence stories officials and victims / survivors are usually the primary source of information.

- Created and 'subsidized' news is more frequent than unpredicted news. It occurs because a person, group or organization does something newsworthy and / or seeks press attention. Public relations practitioners participate in the process of news making.

- 'Enterprise' news is made when journalists act rather than react as they do in a disaster or tragedy. This is called enterprise news because the editor or reporter takes the initiative on a story.

Disasters can be divided into four major phases:

Non-Disaster Phase

Due to an apparent calm and no possibility of disaster, public and policy makers both drift into forgetfulness and become oblivious to the fact that disasters can happen at any time. In this phase, journalists can possibly do the following:

- Write on issues pertaining to disaster related policy and legislation.

- Conduct interviews to highlight the significance of long-term disaster mitigation measures by public and private sectors.
- Undertake research and enhance understanding of disaster issues.
- Inform public and especially hazard-prone communities about the measures being taken by the government with regard to disaster risk management. Questions can be explored, such as: Is there any long-term strategy available? How are communities interacting with forces of nature? Are they filling water channels with debris, which may reduce the channels' capacity to store and carry water in the monsoon? Have barrage administrations started de-silting drives to maintain their water storage capacity? Are people living in mountains cutting trees, which can cause landslide in summer?
- Unplanned and rapid urbanization, population explosion, uncontrolled environmental changes and sudden industrialization are posing threat to human lives, especially in the third world. An urban-based reporter must keep a watchful eye on fast changing demographic and socio-economic factors to be able to analyze and even predict a disaster like situation.
- The involvement of public in policy making is often ignored. A reporter can bring forward the opinion and suggestions of the masses before the policy makers. He can do this by publishing public opinion on what they think should be done and how they would like to get involved in government and civil society's program. Local FM radio stations in this regard can play crucial role.

Pre-Disaster Phase

In a pre-disaster phase, if we may categorize it as such, a reporter can emphasize the importance of disaster risk reduction and preparedness by encouraging the decision makers and the at-risk communities to undertake appropriate actions to reduce damage if not avoid future disasters. Following are some tips for journalists for working in pre-disaster phase:

- Educating the masses through interesting information is an essential element of journalism. All kinds of safety measures should be publicized to the population living in danger zones. A reporter can play a significant role in providing information on the potential dangers and risks in the country. He/she can inform about the seasonality of different hazards, e.g. the flood season, drought seasons, typhoon season, etc. A reporter can highlight which groups of people are most at-risk and provide information on preparedness and mitigation.

- Raising awareness on Early Warning is another essential component of disaster reporting which includes informing public about precautionary measures to avoid loss. A reporter should get the scientific forecasts about potential hazard but care should be taken to avoid unnecessary panic and minimize false reports.

- Highlight preparedness measures being taken by the government and communities and identify gaps so that the responsible organizations are able to remove gaps for an effective and efficient response in case any disaster hit vulnerable population.

- It is important for a journalist to have clear understanding about the working of government

departments entrusted with the responsibility of disaster preparedness and mitigation. This understanding leads a journalist to look into the coordination mechanism among various agencies.

- Focus on the structural / engineering measures with inputs from technically sound experts. By doing so, you may be able to point out any engineering faults well in time, which otherwise may have the potential of harming hazard-prone communities in case a disaster strikes.

- Training a capacity building of government departments and private sector play a central role in ensuring successful disaster risk management at the national and local levels. Media can, in pre-disaster phase, package and disseminate information on such efforts by government and other stakeholders.

During-Disaster Phase

During a disaster the role of a reporter is further intensified. At this stage he/she addresses public and key stake holders at the same time and actually works as a bridge between the affected community and the concerned relief organizations. Immediately after a disaster, a journalist can report the following:

- Carefully provide data on causalities with details of the area being affected by a disaster.

- Inform relief organizations about the needs of those who are not being attended by them for any reason. Authorities and aid groups might be overwhelmed by the scale of the emergency operations and might overlook certain groups of survivors. It is the role of the reporter to make sure that all groups of people affected by the disaster are able to receive appropriate aid.

- Remain in close contact with government departments to know about any external financial assistance and report on the aid pouring in from outside. See how this aid is reaching out to affected population. Consider gender dimensions of emergency relief and highlight any discrimination being meted out religious or ethnic minorities.

- Relay messages concerning the welfare of groups of people or families, which might be isolated and trapped in certain areas (over the roofs, trees, or isolated islands, etc). Since the families and relatives of such people would possibly be in distress, the media can gather and provide information about the condition of such groups and relay them to the public as human stories.

- Inform on actions being taken by authorities and aid groups. These include information on what the government has done to save the lives and property in the affected areas; what actions other agencies are undertaking; and what other plans, actions and measures authorities have to save lives and provide essential assistance to the victims.

- Facilitate communication among affected people and their relatives, friends, families in other parts of the country or worldwide. In large scale disasters, communication lines between the disaster-affected area and the other parts of the country are likely to break down. The reporters can facilitate

communication among survivors and their families.

- International standards developed by SPHERE focusing on minimal needs of the survivors like water, food, sanitation, shelter etc. It is the reporters' obligation to monitor and advice the concerned authorities.

- Communicate potential secondary risks to minimize further disaster or damage. Look into secondary hazards that are possible threats after the disaster. It is important to understand the risk to avoid further losses.

Summary of possible actions by a reporter during disaster

- Inform the public with timely and factual information
- Advice the public about actions to be taken
- Inform on actions being taken by authorities and aid groups
- Relay messages concerning the welfare of isolated or trapped groups
- Facilitate communication among affected people and their relatives, friends, families in other parts of the country or worldwide
- Highlight the needs of survivors
- Highlight the need for application of minimum standards
- Communicate potential secondary risks to minimize further disaster or damage
- Fact finding/ what, where, when, how and who

    - *Description of the event*
    - *How and when it happened?*
    - *How many people were killed or affected?*
    - *How many survivors and what are their conditions and needs?*
    - *Why such a heavy toll in mortality and morbidity?*
    - *Extent of damage*
    - *What safety measures are being taken?*
    - *Who or what is to blame? (Cause of disaster)*
    - *Has this ever happened before?*
    - *And has the preparedness and emergency response improved?*
    - *What about psychosocial assistance to those who have been injured?*
    - *How does this problem affect operations?*
    - *What are the next steps to be taken to ensure survival?*
    - *Measures being planned to ensure care of survivors*

Post-Disaster Phase

In the final phase the focus is on early recovery, rehabilitation and reconstruction of damaged infrastructure. At this phase media has been equipped with a clear picture of what actually have happened and how much it cost in terms of physical and psychological damage. Media can promote advocacy as well.

- Collect information about causalities and physical damage from spot and relevant hospitals.
- Coordinate with the concerned authorities to collect information.
- Check out for the required basic needs as per the situation.
- Visit and report from relief camps.
- Highlight requirements of extreme weather like warm clothing etc.
- Also monitor the medical relief.
- Response Evaluation: This involves informing the public in the affected areas as well as other stakeholders about the rehabilitation and reconstruction plans developed by the government, UN and I/NGOs.
- A reporter can facilitate debates regarding the plans in order to ensure that the concerns of survivors are truly addressed and that such plan are developed and implemented with the active participation of all stakeholders, particularly the beneficiaries/ communities.
- It is imperative that the opinions of survivors are considered in the development and implementation of recovery strategies. However, under the high pressure imposed to rebuild infrastructure as soon as possible, the authorities and other aid organizations may overlook this aspect.
- A reporter can also conduct opinion polls among disaster survivors, and solicit the people's opinion on how recovery plans can be made more relevant to the needs of the community.
- Mobilization of financial, technical and material resources is an important requirement in the post-disaster phase. The local, provincial and national authorities may not have enough resources to respond to the needs of rehabilitation and reconstruction. It will be important to assess the needs and inform relevant local and international aid agencies to mobilize resources for assistance.
- Undertake regular follow-ups on on-going early recovery, rehabilitation, and reconstruction work.

Possible Functions of Mass Media in Disasters

Time Frame	Slow-onset Disasters	Sudden Disasters
Pre-disaster	● Redefining events ● Agenda setting (bringing the events to public's attention; highlighting the event)	● Disseminating the preparedness information ● Sending warnings to the threatened population ● Speedily disseminating news of the event
Immediately post-disaster	● Informing decision makers ● Monitoring the event ● Estimating its seriousness ● Providing relief information	● Determining its cause ● Estimating its seriousness ● Providing damage and casualty estimates (Perhaps challenging official estimates) ● Detailing relief needs
Short-term relief	● Monitoring the event ● Reporting relief operations and their effects	● Monitoring the event ● Reporting relief operations ● Locating defects and errors ● Obtaining accurate information
Long-term relief (decreased media attention)	● Updating status reports ● Reporting wrongdoings ● Following long-term relief activities	● Updating status reports ● Reporting wrongdoings ● Following long-term relief activities

Source: *Disaster Communication: A Resource Kit for Media* by Bhatti A. & Ariyabandu M.

Basics of Disaster Reporting

Basics of Disaster Reporting

Those who intend to report disaster related issues may benefit from the following checklist that addresses the basics of news writings.

Writing Basics

- ***What:*** The event (flood, earthquake, cyclone, thunderstorm, explosion etc.)
- ***Who:*** Victims, survivors, damaged physical structures (different impact on men, women, children, poor, and rich, the young and elderly).
- ***Where:*** Location of an event and scope of impact. Was the location already declared hazardous? What made the place or community the target of the disaster? Proximity of the place to the hazard.
- ***When:*** Time and duration of an event and its expected aftermath.
- ***Why:*** An explanation of why an event occurred, the causal factors that led to disaster, the technical, social and political linkages involved in the making of the disaster. What was the structure of vulnerabilities? Have you covered the viewpoints of various stakeholders to find out how they explained the event differently?
- ***How*:** This can often be answered as the steps leading to or following a news event. How is the government and communities preparing to cope with the disaster? What structural and non-structural measures are required for short-term and long-term disaster management? Who will ascertain needs and how to prioritize interventions?
- ***Relevance to Readers*:** How will this information affect your readers? Is there any way to involve people in the story to make it more interesting?
- ***Impact:*** Who has been affected by the news? What has been and will be the impact? Will it influence policy or inform the public? Does your story have potential to trigger a debate on or mobilize public action against the post-hoc system of disaster management?
- ***Recommended Actions:*** What do people need to do when a threatening event occurs? What precautions should they take? Who should they contact if they have a problem? How can they work to improve the situation in the short and long terms?

Article Organization

- ***Lead:*** Is your lead sentence, paragraph or introduction interesting enough to draw reader into your story? Is it accurate? Does it avoid sensationalism?

- ***News:*** Have you decided what will be the main news in your story? Have you brought this news in at the start of your article or is it sidelined somewhere towards the end?

- ***Details:*** Do you have the information for your article arranged in descending order of importance? Are the important facts high in the story and the details towards the end?

- ***Sticking to the Point:*** Did you stick to the main point in your story and not diverge into secondary issues until you had fully covered the main news?

- ***Transition:*** Have you helped readers to follow your move from one major idea to the next by providing transitional words or phrases?

- ***Conciseness:*** Is your article written as tightly as you can make it? Have you eliminated irrelevant information and quotations? Have you edited your sentences carefully to cut out unnecessary words?

Clarity

- ***Audience:*** Have you identified the readers of your article? Is the information, particularly the technical information you are providing, understandable to them?

- ***Background:*** Have you decided how much background information or technical detail is needed in this article to help the readers you have identified above?

- ***Explanations:*** Have you provided explanations of complex technical information for your readers and are these explanations clear? Are they meaningful as well? If you used technical terms such as Cusec, Richter Scale, Epicenter or El Nino, did you use any analogy or comparison to make such terms meaningful to people?

- ***Translation Tools:*** Have you used any of these helpful translation aids to explain information?

    - *Analogies*
    - *Metaphors or similes*
    - *Definitions*
    - *Descriptions*
    - *Comparisons drawn from the readers' daily life*
    - *Background explanation which helps to provide context for an issue or event*
    - *Explanations which help people to understand what something is and how it works*

- ***Numbers:*** Have you made sure that any numbers and figures you used are consistent and not confusing? Have you avoided mixing measurement terms such as millions and crores, which confuses readers? Have you tried to find some appropriate rationale or comparison that will help people to understand the numbers?

- ***Technical Jargons:*** Have you avoided using technical jargons? If you have had to use it, have you defined or explained it immediately after its use? Is it defined so that the average reader will understand it?

Sources

- ***Balance:*** Have you balanced your articles by including views from all sides?

- ***Credibility:*** Are your sources credible experts? Have you checked them out with other experts if needed? Have you included enough information in your article to show readers that your sources are expert or believable?

- ***Active Reporting:*** Have you made every effort to go beyond just taking a press release or government handout to develop the story fully by looking for good sources? Have you gone out to listen to involved stakeholders? Have you included victims' voices in your story? Did you meet official and private experts to verify controversial claims, if any? Did you visit the location of the disaster? Were you able to obtain some official correspondence or documents related to the issue, which can make your story stronger?

- ***Sources:*** Have you checked with as many of the following sources as possible?

    - *Local and national government officials*
    - *Lower-level government employees in relevant agencies who might be knowledgeable*
    - *Scientists or engineers from a university*
    - *Scientists, doctors or engineers from a research institution*
    - *Scientists or doctors from a hospital*
    - *Police, military, fire or ambulance officials on the scene*
    - *Knowledgeable NGO representatives*
    - *Individual people affected by an event*
    - *Officials of international organizations who might have broader view of disaster issues*
    - *Locally engaged social, political and religious activists*
    - *Onlookers and eye-witnesses*
    - *Disaster and civil defence-related government and non-government organizations*
    - *Meteorological services*

- ***Additional Sources:*** Did you ask any of the above mentioned people for recommendations of other people you might interview to find out more on the subject? Did you ask them for the names of people who might disagree with their views on the issue involved?

- ***Disaster-Development Linkages:*** Does your story explain the interrelationships between disasters and development involved in the issues you are writing about? Does it show how these interrelationships will or could be affected by an event, a change in policy, or a plan to develop a

region?

- ***Impact:*** Does your article explain the impact of the event on people living there, on governments and on the economy? Do you take a multidimensional look at impact? Do you point out how it will or could relate directly to reader's lives? Do you note if it will be important for them in future?

- ***Flow Charts:*** Have you sketched a drawing or flow diagram for yourself that traces the steps or stages in the disaster event or identifies involved parties and processes? This helps you to organize your story and reminds you to cover all parts, including important geo-social interrelationships.

- ***Illustrations:*** Have you looked for or planned to include photographs, drawings, graphs, charts or maps that can help to illustrate disaster-related linkages for your readers?

Writing Style

Have you avoided all of the following writing problems?

- *Long sentences*
- *Long paragraphs or paragraphs with more than two topics*
- *Confuse words*
- *Words that readers would not understand and that are not explained*
- *Excessive technical jargons*
- *Ponderous, long and meaningless quotations*
- *Statements in interviews or speeches that are not attributed to the speakers*
- *Words that could be interpreted by readers in more than one way*
- *Misspelled words, words incorrectly used, grammatical problems*

Understanding Key Disaster Issues for Effective Reporting

Understanding Key Disaster Issues for Effective Reporting

Hazard Identification

Hazard identification is primarily a technical task which should be undertaken by specialists. However, in case of recurring disasters like floods, drought and landslides, the observations of communities based on their historical experiences can provide information to support further investigations. Reporters and editors, wherever they are based, can learn about the information known to local inhabitants and can use it to further identify hazards faced by the area. For instance, a district correspondent should be aware of the areas that can be hit by floods, landslides, etc. and he/she should file reports on potential hazards in the area he/she belongs to or is based in. A newly appointed or transferred city reporter should first of all acquire information about the potential hazards known to the people of that area and city. This will help the reporter to develop advanced stories on the issue in question. Journalists can look at national and local governments' hazard identification surveys. These can serve as useful background documents for advanced analysis and informed reports.

Risk Assessment / Communication

The difference between hazard assessment and risk assessment has to be noted. Hazard assessment tells us about the origin and nature of the phenomenon, while risk assessment is about the possible threat, behavior and perceived severity of the hazardous phenomenon (flood, earthquake, landslide, etc.). Risk assessment and communication is, thus, an issue on which the media can take a lead. As discussed above, information supplied quickly about a risk can trigger an early action. The media can issue regular early warnings on water flows and levels in rivers, and can also report about possible threats (e.g. which points are more vulnerable and what structural measures are needed beforehand to prevent disaster). As part of a risk assessment exercise the current state of embankments and protective bunds can be examined and can be reported in the newspapers by analyzing whether these structures would be strong enough to withstand a severe hazard event. Information based on risk assessment can also be transmitted to vulnerable communities and government organizations to alarm and alert both. However, risk assessment has to be made very carefully, as it should not lead to under-warning or over-warning, which can result in inappropriate responses by community and other organizations.

Avoidance Measures

There is another crucial entry point for the media in disaster situations. It can advise the public on avoidance and preventive measures. These preventive measures are not what the media can develop on its own rather they should be fed into media content by experts on disasters. For instance a flood expert can give answers to questions such as: What is the danger level of the water? What measures can risk-prone communities take to save their life and livelihoods? What preventive measures can be applied to avoid water-related contamination? This kind of information should be sought by the

media to be further disseminated to communities.

Early Warning

Early warning transmits messages to individuals, households, groups and the communities, informing them about the impending danger and what to do to prevent, avoid or minimize damage. When dealing with the early warning phase, media people may take into account that the interplay of the following elements will make an early warning chain more effective:

- *Warning source*
- *Warning content*
- *Mode of communication*
- *Perceived warnings*
- *Certainty and belief*
- *The warning confirmation and its social context*

Code of Conduct on Images and Messages

Code of Conduct on Images and Messages

In April 1989, the General Assembly of European NGOs adopted its Code of Conduct on Images and Messages Relating to the Third World. This is designed to counter fatalistic images of the Third World. Following are the Code's practical guidelines:

1. Avoid catastrophic or idyllic images which appeal to charity and lead to a clear concience rather than consideration of the root problems;
2. All people must be presented as human beings and sufficient information provided as to their social, cultural and economic environment so that their cultural identity and dignity are preserved. Culture should be presented as an integral part of development;
3. Accounts given by the people concerned should be presented rather than the interpretations of a third party;
4. People's ability to take responsibility for themselves must be highlighted;
5. A message should be formulated in such a way that generalizations are avoided in the minds of the public;
6. The internal and external obstacles to development should be clearly shown;
7. Interdependence and joint responsibility in underdevelopment should be emphasized;
8. The causes of poverty should be apparent in a message in order to enable the public to become aware of the history and real situation in the Third World, and the structural foundations of these countries before colonization. It is the situation today, coupled with knowledge of the past which should be the starting point for examining ways in which extreme poverty and oppression can be eliminated. Power struggles and vested interests should be exposed and oppression and injustice denounced;
9. Messages should avoid all forms of discrimination (racial, sexual, cultural, religions, socio-economic);
10. The image of our Third World partners as dependent, poor and powerless is most often applied to women who are invariably portrayed as dependent victims, or worse still, simply do not figure in the

picture. An improvement in the images used in educational material on the Third World evidently requires a positive change in the images projected of Southern women;

11. Southern partners should be consulted in formulation of all messages;
12. If an NGO call on the services of other partners for a fund raising activity, it should be made to the Code in the sponsoring contracts between the NGO and its partner(s)

Although most of the above-mentioned guidelines are meant primarily for NGOs, journalists can also use them as a code of ethics while covering disasters.

Useful Disaster-Related Information for Journalists

Useful Disaster-Related Information for Journalists

Disaster Management Terminologies

Hazard

- Hazard is an event or occurrence that provokes disaster.
- A hazard is a natural or human-made phenomenon, which may cause physical damage, economic losses, or threaten human life and well being if it occurs in an area of human settlement, agriculture or industrial activity. Note, however, that in engineering, the term is used in more specific, mathematical sense to mean the probability of the occurrence, within a specified period of time and given area, of a particular, potentially damaging phenomenon of given severity or intensity.
- A hazard can be defined as a phenomenon that has the potential to cause injury to life, livelihoods and habitats.
- **Natural Hazards:** Natural phenomena which pose a threat to people, structures or economic assets and may cause disaster. High winds, floods, fires, volcanic eruption, landslides, droughts and earthquakes are all natural hazards. In this fast developing society, the distinction between natural and man-made hazards is becoming harder to define. For instance, flooding may be increased through landfill, drainage or groundwater extraction; storm surge hazard may be worsened by the destruction of mangroves.
- **Human-Made Hazards:** Conditions that may have disastrous consequences for a society. These are associated with industries or energy generation facilities and include explosions, leakage of toxic waste, pollution, dam failures. War or civil strife is included in this category.
- **Hazard Assessment:** The process of estimating, for defined areas, the probabilities of the occurrence of potentially damaging phenomena of given magnitude within a specified period of time. Hazard assessment involves analysis of formal and informal historical records and skilled interpretation of existing topographical, geological, hydrological and land-use maps.
- **Hazard Mapping:** The process of establishing geographically where and to what extent particular phenomena are likely to pose a threat to people, property, infrastructure, and economic activities. Hazard mapping represents the results of hazard assessment on a map, showing the frequency / probability of occurrence of various magnitudes or durations.
- **Hazardous Waste:** Any waste which is flammable, corrosive, reactive or toxic and which may pose substantial or potential hazard to human health and safety or to the environment when improperly managed (reactive refers to the ability to enter into a violent chemical reaction which may involve an explosion or fumes).

- **HazMats:** 'Techno jargon' for hazardous materials, which, if released or misused, could pose a threat to people and the environment. HazMats can be explosives, flammable and burnable substances, poisons and radioactive materials.

Vulnerability

All the evidence points to a steep and continuing rise in deaths and injuries from disasters since the 1960s, and there is general consensus among researchers and insurers that the number of disasters is increasing. This rise cannot be explained by a parallel rise in the number of earthquakes, cyclones and the like. What we are seeing is an increase in the effects of disasters on people or, in other words, an increase in people's vulnerability to disasters.

It is the social, cultural, economic and political environment that makes people vulnerable. This is most apparent in the economic pressures that force many of the poor to live in cheap but dangerous locations such as flood plains and unstable hillsides; but there are many less visible underlying factors social and political as well as economic that affect people's ability to protect themselves against disasters or to recover from them.

Some groups are more vulnerable than others. Vulnerability is not just poverty, but the poor tend to be the most vulnerable. The influence of poverty and the development process on vulnerability to disasters is now well established. Being poor, and having no choice, increases vulnerability to disasters. Class, caste, ethnicity, gender, disability and age are other factors affecting people's vulnerability. Those who are already at an economic or social disadvantage because of one or more of these characteristics tend to be more likely to suffer during disasters.

Poor people often get locked in a cycle of vulnerability. Because they are poor, they become vulnerable. Because they are vulnerable, they are at great risk in the face of a natural hazard leading to disaster. Because they suffer greater losses from a disaster, they become even poorer, more vulnerable, and are at an even greater risk of another disaster.

- Vulnerability is the susceptibility to harm of those at risk.
- Vulnerability is the coping capacity of those at risk.
- Vulnerability is the degree of susceptibility and resilience of the community and environment to hazards.
- Vulnerability depends on the characteristics of a person or group in terms of capacity to anticipate, cope with, resist and recover from the impact of hazard.
- The extent to which an individual, community, sub-group, structure, service, or geographic area is likely to be damaged or disrupted by the impact of a particular disaster hazard.

- Conditions of vulnerability are a combination of factors that include poor living conditions, lack of power, exposure to risk, and the lack of capacity to cope with shocks and adverse situations.

- **Classification of Vulnerabilities:** Vulnerabilities can be classified as following:

  - **Physical Vulnerabilities** are the hazard-prone locations of settlement, insecure and risky sources of livelihood, lack of access to basic production resources (such as land, farm inputs, and capital), lack of knowledge and information, lack of access to basic services.

  - **Social Vulnerabilities** are reflected in the lack of institutional support structures and leadership, weak family and kinship relations, divisions and conflicts within communities, and the absence of decision-making powers.

  - **Attitudinal Vulnerabilities** are seen in dependency, resistance towards change, and other negative beliefs. People who have low confidence in their ability to affect change or who feel defeated by events, are harder hit by disasters than those who have sense of their ability to bring the changes they desire.

  - **Economic Vulnerabilities** pertain to how people make their living and from where they get their livelihood. Determining which type of livelihood is easily affected by disasters (e.g. fishing, tricycle driving, etc.) is a key issue to be considered in determining the magnitude of economic vulnerability.

- **Vulnerability Analysis:** The process of estimating the vulnerability to potential disaster hazards of specified elements at risk. For engineering purposes, vulnerability analysis involves the analysis of theoretical and empirical data concerning the effects of particular phenomena on particular types of structures. For more general socio-economic purposes, it involves consideration of all significant elements in society, including physical, social and economic considerations (both short and long term), and the extent to which essential services and traditional and local coping mechanisms are able to continue functioning.

Capacity

All natural crisis events such as floods or earthquakes do not become disasters. Sometimes, they cause no major damage to life or property because they occur where no one lives or because people have taken measures to prevent or reduce their damaging effects. Even when these events do cause damage, not everyone in a disaster area suffers equally. Why is it that some people suffer more from disasters than others? The answer is that some people have fewer capacities and are more vulnerable than others.

Capacity has been included in disaster management initially as a guide for both international and local agencies who work with vulnerable communities to link disasters to development even in emergency situations disaster survivors have capacities. They are not helpless victims but have coping mechanisms on which to build on for emergency response and recovery. As the developmental and risk reduction paradigms in disaster management emerged, for many vulnerable groups, the viable track to reduce vulnerabilities has

been by increasing their social / organizational capacities.

- Capacity is a community's actual or potential ability to withstand disasters through the presence of material and human resources that aid in the prevention and effective response to disasters. This includes the resources and skills people possess, can develop, mobilize or have access to which allow them to have more control over shaping their future. It is the ability of the community to deal with hazards effectively.

- **Classification of Capacities:** Capacities can be classified as following:

  - **Physical Capacities:** Even people whose houses have been destroyed by a typhoon or crops have been destroyed by a flood can salvage things from their homes and farms. Sometimes they have food in storage or crops that can be recovered from the fields or farm implements for planting again. Some family members from the fields or farm implements for planting again. Some family members have skills which enable them to find employment if they migrate, either temporarily or permanently.

  - **Social Capacities:** In most disasters, people suffer their greatest losses in the physical and material realm. For rich people, they have the capacity to recover soon because of their wealth. In fact, they are seldom hit by disasters because they live in safe areas and their houses are built with stronger materials. However, even when everything physical is destroyed, people still have their skills and knowledge; they have family and community organization. They have leaders and systems for making decisions and capacities in the social and organizational realm.

  - **Attitudinal Capacities:** People have also positive attitudes and strong motivations such as the will to survive, love and concern for and willingness to help each other. Coping mechanisms or strategies are generally considered capacities for survival.

  - **Economic Capacities:** This refers to the ability of the business sector to recover and re-establish the economic community.

Disaster

The term 'disaster' is defined in different ways. For example:

- Sudden or great misfortune, calamity (Concise Oxford Dictionary).

- A sudden calamitous event producing great material damage, loss and distress (Webster's Dictionary).

- An event natural or man-made, sudden or progressive, which impacts with such severity that the affected community has to respond by taking exceptional measures (Disaster Management, A Disaster Manager's Handbook, Asian Development Bank, Manila).

- An event associated with the impact of a natural hazard, which leads to increased mortality, illness and/or injury, and destroys or disrupts livelihoods, affecting the people or an area such that they perceive it as being exceptional and requiring external assistance for recovery (Cannon 1994).

- An event, natural or man-made, sudden or progressive, which impacts with such severity that the affected community has to respond by taking exceptional measures (Carter 1991).

- Calamity beyond the coping capacity of the effected population, triggered by natural or technological hazards or by human action (D&E Reference Center 1998).

- A disaster is a normatively defined occasion in a community when extraordinary efforts are taken to protect and benefit some social resource whose existence is perceived as threatened" (Dynes 1998).

- A disaster is an event concentrated in time and space, in which a society or one of its subdivisions undergoes physical harm and social disruption, such that all or some essential functions of the society or subdivision are impaired (Kreps 1995).

- Disasters are the interface between an extreme physical event and a vulnerable population (Okeefe et al 1976).

- A Condition or situation of significant destruction, disruption and/or distress to a community. (Salter 1997-98).

- A disaster occurs when a disruption reaches such proportions that there are injuries, deaths, or property damage, and when a disruption affects many or all of the community's essential functions, such as water supply, electrical power, roads, and hospitals. Also, people affected by a disaster may need assistance to alleviate their suffering. (Simeon Institute).

Disaster Risk

- The probability of meeting danger or suffering harm and loss.

- A measure of the probability of damage to life, property, and/or the environment, which could occur if a hazard, manifests itself, including the anticipated severity of consequences to people.

- Risk = Likelihood x Consequence. (Ansell and Wharton 1992).

- Risk is nothing more than the consequences of hazard (Bezek 2002).

- The possibility of suffering harm from a hazard (Cohrssen and Covello 1989)

- Risk is the probability of an event occurring, or the likelihood of a hazard happening (Presidential/Congressional Commission on Risk Assessment and Risk Management 1997).

- Risk refers to the probability that death, injury, illness, property damage, and other undesirable consequences will stem from a hazard (Lerbinger 1997).

- A function of two major factors: (a) the probability that an event, or series of events of various magnitudes, will occur, and (b) the consequences of the event(s) (Petak and Alkinson 1982).

- Expected losses (of lives, persons injured, property damaged and economic activity disrupted) due to a particular hazard for a given area and reference period. Based on mathematical calculations, risk is the product of hazard and vulnerability (U.N. 1992).

- The probability of harmful consequences, or expected loss (of lives, people injured, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazards and vulnerable/capable conditions. Conventionally risk is expressed by the equation Risk = Hazards x Vulnerability/Capacity (U.N. ISDR 2002, 24).

Elements at Risk

Following are described as 'elements at risk'

- Peoples' lives and health
- Household and community structure
- Facilities and services such as houses, bridges, schools, roads, hospitals, etc.
- Livelihood and economic activities, which include jobs, equipment, crops, livestock, etc.
- Natural environment

Disaster Risk Assessment

- A participatory process of determining the nature, scope and magnitude of negative effects of hazards to the community and its households within an anticipated time period (ADPC, CBDRM 11).

- The First Step of the process identifies hazards in the community. Its output should identify, list down and describe the nature of hazards in terms of its recurrence, seasonality, location, possibility of early warning and general knowledge of the people about the hazard.

- The Second Step captures hazards, vulnerability and natural resources and facilities in community and / or digitized maps.

- The Third Step identifies and assesses the vulnerabilities and capacities of the community in general but makes sure that there is gender desegregation of data;

- Special needs groups like children and disabled are given utmost considerations as well.

Disaster Risk Management

- Disaster Risk Management is about looking beyond hazards alone to considering prevailing conditions of vulnerability. It is the social, cultural, economic, and political setting in a country that makes people vulnerable to unfortunate events. The basis of this understanding is simple: the national charter and chosen form of governance can be as much of a determinant in understanding the risks in a given country, as are the various social, economic and environmental determinants (U.N. ISDR 2002).

- A systematic application of management policies, procedures and practices to identify, analyzes, assess, treat, monitor and evaluate risks. This involves decision-making based on the examination of those risks, which includes hazard, vulnerability, and capacity of people and institutions. (ADPC, DMC-30, 2003)

Disaster Risk Reduction

The systematic development and application of policies, strategies and practices to minimize vulnerabilities and disaster risks throughout a society, avoid (prevention) or to limit (mitigation and preparedness) adverse impact of hazards, within the broad context of sustainable development (U.N. ISDR 2002).

Mitigation

- Mitigation is the social attempt to reduce the occurrence of a disaster, to reduce the vulnerability of certain populations, and to more equitably distribute the costs within the society (Dynes 1993, 179).

- Those activities designed to alleviate the effects of a major disaster or emergency or long-term activities to minimize the potentially adverse effects of future disaster in affected areas (FEMA 1990).

- Sustained action taken to reduce or eliminate long-term risk to people and property from hazards and their effects. Mitigation distingushes actions that have a long-term impact from those that are more closely associated with preparedness for immediate response to, and short-term recovery from a specific event (FEMA 1997, Multi Hazard).

- In its simplest sense, mitigation is risk management. The term describes actions that can be taken at the individual, local, State and Federal levels to reduce the overall risk from natural disasters.

- Action to reduce the effects of a disaster on a population (Nimpuno, 1998).

- Mitigation is seen as prevention, stopping a negative event before it happens. (Peterson and Perry 1999, 242).

- Measures taken in advance of a disaster aimed at decreasing or eliminating its impact in society and

on environment. (U.N. 1992, 4)

- Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards. (U.N. ISDR 2002, 25)

Preparedness

- Those activities, programs, and systems that exist prior to an emergency that are used to support and enhance response to an emergency or disaster. (FEMA 1992)

- Preparedness represents actions that are undertaken to reduce the negative consequences of events where there is insufficient human control to institute mitigation measures. (Peterson and Perry 1999, 242)

- Activities designed to minimize loss of life and damage, to organize the temporary removal of people and property from a threatened location and facilitate timely and effective rescue, relief and rehabilitation.

- Activities and measures taken in advance to ensure effective response to the impact of disasters, including the issuance of timely and effective early warnings and the temporary removal of people and property from a threatened location. (U.N. ISDR 2002, 25)

- Measures to ensure the readiness and ability of a society to forecast and take precautionary measures in advance of an imminent threat, and to respond to and cope with the effects of a disaster by organizing and facilitating timely and effective rescue, relief and appropriate post-disaster assistance.

Salient Features of National Disaster Management Ordinance, 2006

National Level

National Disaster Management Commission (NDMC)

Headed by the Prime Minister as a Chairperson, the NDMC is the highest policy and decision making body for disaster risk management. Other members include opposition leaders of both the houses; Chief Ministers of four provinces; Governor KPK; Prime Minister AJK; Chief Minister of Gilgit-Baltistan; Chairman JCSC or his nominee; Federal Ministers for Communications, Defence, Finance, Foreign Affairs, Health, Interior, Social Welfare and Special Education; Chairman NDMA; Representative of Civil Society; and any other person appointed or co-opted by the Chairperson. NDMC is mandated to formulate polices and develop guidelines on DRM, approve DRM plans prepared by Ministries or Divisions of the federal government, arrange and oversee funds, and provide support to other countries affected by major disasters.

National Disaster Management Authority (NDMA)

NDMA has been established to serve as the focal point and coordinating body to facilitate implementation of disaster risk management strategies. Following are the powers and functions of NDMA:

- Act as the implementing, coordinating and monitoring body for DRM;
- Prepare the National DRM Plan to be approved by the National Commission;
- Lay down guidelines for preparing DRM Plans by different Ministries or Departments and the Provincial Authorities;
- Implement, coordinate and monitor the implementation of the National Policy;
- Provide necessary technical assistance to PDMAs for preparing Provincial DRM Plans;
- Coordinate response in the event of any threatening disaster situation or disaster;
- Promote general education and awareness in relation to DRM; and
- Perform such other functions as the National Commission may require it to perform.

Provincial Level

Provincial Disaster Management Commission (PDMC)

The PDMC is chaired by the Chief Minister and other members include opposition leader and a member nominated by him/her. The CM has the powers to nominate other members of PDMC. Similarly, he/she may designate one of the members to be the Vice Chairperson. The powers and function of PDMC are as following:

- Lay down the provincial / regional DRM policy;
- Approve the DRM Plan
- Review implementation of the Plan;
- Review the development plans of provincial departments and ensure that risk reduction measures are integrated; and
- Oversee the provision of funds for risk reduction and preparedness measures.

Provincial Disaster Management Authority (PDMA)

The PDMA is headed by a Director General (DG) appointed by the Provincial Government. Following are the powers and functions of PDMA:

- Formulate DRM policy and obtain approval of the PDMC;
- Ensure implementation of DRM policies and plans in the Province;
- Coordinate and monitor the implementation of the National Policy, National Plan and Provincial Plan;
- Examine the vulnerability of different parts of the Province to different disasters and

specify prevention or mitigation measures;

- Lay down guidelines to be followed by Provincial Departments and District Authorities for preparation of DRM plans;
- Evaluate preparedness and response arrangements of public and private agencies / departments at the provincial level;
- Coordinate response in the event of disaster;
- Give directions to any Provincial department or authority regarding actions to be taken in response to disaster
- Ensure that communication systems are in order and disaster management drills are being carried out regularly

.

District Level

District Disaster Management Authority (DDMA)

The Disaster Management Ordinance put ample emphasis on establishing DDMAs by notifying them in the Official Gazette. DDMAs are headed by District Nazims whereas DCOs / DCs, District Police Officers (DPOs), EDOs (Health), and any other district-level officer appointed by the District Government are its members. Following are the powers and functions of DDMAs:

- To plan, coordinate and implement DRM measures in accordance with the guidelines laid down by NDMA and PDMA;
- Prepare District Disaster Risk Management Plan (DDRMP) and district Emergency Response plan;
- Ensure that the risk-prone areas are identified and prevention and mitigation measures are undertaken accordingly;
- Ensure that the guidelines for prevention, mitigation, preparedness and response measures as laid down by NDMA and PDMA are followed by all district level departments;
- Lay down guidelines for disaster management plan;
- Monitor the implementation of DRM plans prepared by the district departments;
- Organize and coordinate DRM training programs for district government officials, community members and community-based organizations;
- Set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public;
- Prepare, review and update district level response plan and guidelines;
- Establish stockpiles of relief and rescue materials;
- Ensure that communication systems are in order and disaster management drills are carried out periodically.

National Disaster Management Framework

After the promulgation of National Disaster Management Ordinance, 2006 (NDMO), an elaborate system of Disaster Risk Management (DRM) at the national, provincial and district level has been established. The

National Disaster Management Authority (NDMA) at the federal level has started acting as focal point to lead the process by facilitating the work of Provincial Disaster Management Authorities (PDMAs) and the District Disaster Management Authorities (DDMAs). The new system envisages to achieve sustainable social, economic and environmental development in Pakistan through reducing risks and vulnerabilities. It has a mission of enhancing institutional capacities for disaster preparedness, response and recovery with a risk reduction perspective in the development planning process at all levels. In line with the vision, the National Disaster Risk Management Framework (NDRMF) has identified the following guiding principles:

- Focus upon most vulnerable social groups; e.g. children, women, elderly, minorities;
- Promote community and local level preparedness culture;
- Follow multi-disciplinary and multi-sectoral approaches;
- Combine scientific knowledge with social knowledge;
- Make development policy, planning and implementation risk-sensitive;
- Develop culturally, economically and environmentally relevant technologies for safer construction in different parts of the country;
- Promote sustainable livelihood practices in areas at high risk from multiple hazards;
- Establish and strengthen partnerships amongst multiple sectors e.g. government, private sector, media, insurance, NGOs, civil society organizations, UN and donors;
- Work with other countries and international community to promote disaster risk reduction;
- Acquire specific capacities / capabilities keeping in view hazard-risk profile of the country; and
- Develop disaster risk management plans from district level upwards in view of specific requirements of the local area.

Priority Areas

The DRM system revolves around the following priority areas, which are being implemented at the national, provincial, district and community level:

1. **Institutional and Legal Arrangements**

   The National Disaster Management Ordinance calls for the establishment of disaster management commissions and authorities at the federal, provincial and district level. The commissions are mandated to take policy decisions whereas the authorities are the implementing and coordinating arms. The national and provincial disaster management commissions and authorities have been established. Similarly, the DDMAs have also been notified. Under this priority area, the institution of technical committees on various aspects and development of legal instruments, guidelines and procedures are planned to be undertaken.

2. **National Hazard and Vulnerability Assessment**

   In order to make informed policies, strategies and programs on disaster risk management, a Vulnerability Atlas of Pakistan will be prepared. This would include hazard maps indicating the

location of various hazards with zonation of risk levels (low, moderate, severe). The Atlas will also include analysis on vulnerability of settlements, housing stock, important infrastructure and environmental resources. A disaster inventory will also be developed to facilitate analysis on disaster and vulnerability trends.

3. Training, Education & Awareness

Training, Education and Awareness programs would involve multiple sectors such as civil servants, federal and provincial ministries, staff of district, provincial and national disaster management authorities, technical agencies, UN staff, NGOs, media, politicians and more importantly communities. Apart from trainings on vulnerability reduction, hazard mitigation and emergency response management, specialized trainings are also being imparted in areas of search & rescue, first aid, fire fighting, evacuation, camp management and relief distribution.

4. Promoting Disaster Risk Management Planning

DRM planning is essential to minimizing adverse effects of hazard(s) through effective disaster risk reduction, preparedness and adequate, timely and coordinated response. It is planned to have a National Disaster Response Plan, which will define roles and responsibilities of federal ministries, departments and other entities in relation to national level disaster response. All the provincial DMAs including AJK and Gilgit-Baltistan have already developed their respective provincial DRM plans whereas DDMAs are in the process of developing local plans.

5. Community and Local Level Risk Reduction Programming

It is rightly believed that the community level program implementation is the heart of disaster risk reduction strategies because disaster risks are essentially local in term of their impact and so as the response. That is why the community based initiatives for the capacity building of local officials and communities, CBOs, builders, contractors, masons, teachers and doctors etc. have been considered of immense importance in the National Framework. The NDMA has launched the first phase of community level activities in Badin & Thatta (Sindh), Quetta & Kech (Balochistan), Mansehra (KPK) and Muzaffarabad (AJK).

6. Multi-Hazard Early Warning System

The early warning capacities for droughts will be enhanced and the Early Warning System (EWS) will be developed for cyclone and tsunami hazards. The role of media will also be enhanced to improve dissemination of warnings. Likewise, communities will be linked with different warning agencies in order to be able to react timely and efficiently.

7. Mainstreaming Disaster Risk Reduction into Development

The purpose of mainstreaming DRR into development is to ensure that the development infrastructure in hazard-prone areas is built to higher standards of resilience against multiple natural

and man-made hazards. This will be done by incorporating risk and vulnerability assessment into project planning stage. NDMA will work with the National Planning Commission and the Ministry of Finance in order to integrate disaster risk reduction into the National Development Plan and the National Poverty Alleviation Strategy. Some pilot projects with selected ministries will be initiated on mainstreaming of risk reduction.

8. **Emergency Response System**

Apart from the National Emergency Operations Centre (NEOC), NDMA will facilitate PDMAs in establishing emergency operations centers at the provincial and district levels. The NEOC would serve as a hub for receiving early warnings and issuing necessary instructions to response agencies. It would also lead coordination and management of relief operations in affected areas. Standard Operating Procedures (SOPs) will be drafted to define roles of federal, provincial and local agencies for their involvement in emergency response.

9. **Capacity Development for Post Disaster Recovery**

In order to manage disaster recovery programs effectively, it is very important to put institutional arrangements and system in place. NDMA will develop guidelines for recovery needs assessment and recovery program design and management for multiple sectors. Similarly, orientation workshops for line ministries and other stakeholders on post disaster recovery program design and implementation will be organized.

Summary of National Risk Profile

The October 2005 earthquake highlighted the risk exposure and vulnerability of Pakistan. The decision makers, politicians, media, development workers, international donors and the general populace have become aware for the first time of the major catastrophic risks facing Pakistan. Pakistan's exposure to natural hazards and disasters could be ranked between moderate to severe. A range of natural hazards including earthquakes, droughts, floods, landslides, avalanches, cyclones/storms, tsunami, glacial lake outbursts, and river erosion threaten Pakistan. In addition a variety of human induced hazards also threaten the society, economy and environment in the country. They include industrial, nuclear and transport accidents, oil spills, urban fires and civil conflicts. The high priority hazards from the perspective of disaster risk reduction include earthquakes, droughts, flooding and transport accidents that can cause widespread damage and losses when they occur. The following is an overview of the key hazards that threaten Pakistan.

Earthquakes

The Indo-Australian plate upon which Pakistan, India and Nepal lie, is continuously moving northward, colliding with and sub-ducting under the Eurasian plate, thus forming the Himalayan mountains, and triggering earthquakes in the process. Within the Suleiman, Hindu Kush and Karakuram mountain ranges,

the Gilgit-Baltistan and Chitral district in KPK, Kashmir including Muzaffarabad, and Quetta, Chaman, Sibi, Zhob, Khuzdar, Dalbandin, the Makran coast including Gwadar and Pasni in Baluchistan are located within high hazard and very high hazard risk areas. The cities of Islamabad, Karachi and Peshawar are located on the edges of the high hazard areas.

The areas comprising Pakistan have suffered four major earthquakes in the 20th century including the great Quetta earthquake of 1935, the 1945 earthquake off the coast of Makran, the 1976 earthquake in Gilgit-Baltistan and the October 2005 Kashmir earthquake. In between these major events, the Gilgit-Baltistan and Kashmir have experienced many small quakes with localized impact.

The 7.6 Kashmir earthquake of October 2005 occurred in a region where a major plate-boundary earthquake was considered long over due. Although the earthquake resulted in widespread devastation, the scientists believe that it may not have released more than one tenth of the cumulative elastic energy that has developed since the previous great earthquake in the region in 1555 or earlier[1]. The seismologists are also concerned about the absence of earthquakes in Baluchistan in the recent history, which may mean the occurrence of major seismic activities in future.

Seismologists like Dr. Roger Bilham and his associates believe that one or more great earthquakes may be overdue in a large fraction of the Himalaya, threatening millions of people in the region[2]. They also don't rule out the chances of occurrence of ruptures with magnitudes in the range 7.5 Mw. to 8 in the Baluchistan area[3].

Droughts

The incidence of drought in Pakistan is becoming increasingly common with substantial consequences on food security, livestock production, environment and natural resources. Low rainfall and extreme variations in temperature characterize the climate in Pakistan. About 60 per cent of the total land area in country is classified as arid, which receives less than 200 mm annual rainfall. The main arid rangelands include Cholistan, Dera Ghazi Khan, D.I. Khan, Kohistan, Tharparkar and Western Baluchistan. The average annual precipitation in Baluchistan and Sindh provinces is about 160 mm as compared with 400 mm in Punjab province and about 630 mm in KPK province. Within Baluchistan, the average precipitation varies from less than 50 mm in the southwest to about 400 mm in the northeast. Rainfall variability during different seasons is also considerably high. The climate of the country in lower southern half is arid and hyper-arid. Some regions of the country in each season remain drastically dry and are always vulnerable to drought. Even a small negative deviation from the low mean rainfall creates additional water scarcity in southern provinces of Baluchistan and Sindh and makes them more vulnerable to droughts. In this way drought has become a typical feature in Pakistan. These areas experience two-three drought years in every decade.

---

1. http://cires.colorado.edu/~bilham/Kashmir 202005.htm- Dr. Roger Bilham of the Cooperative Institute for Research in Environmental Sciences
2. Himalayan Seismic Hazard, Roger Bilham, Vinod K Gaur, Peter Molnar
3. Kashmir quake of October 8 2005: A quick look report, Mid America earthquake centre, MAE Report No. 05-04 Ahmed Jan Durrani et al
4. Strengthening National Capacities for Multi-Hazard Early Warning and Response System, Pakistan Meteorological Department, May 2006.

All provinces of Pakistan have a history of facing major droughts in the past. In recent years, drought has brought extensive damages to Baluchistan, Sindh and Southern Punjab. Severe drought episodes from 1997-2002 affected livelihoods, resulted in human deaths, forced tens of thousands of people to migrate, and killed large number of cattle. This drought led to 120 deaths and affected 2.2 million people, while 2.5 million livestock died and another 7.2 million livestock were affected[4]. Twenty-three (23) out of the 26 districts in Baluchistan and about 6 districts in Sindh were severely affected. The drought of year 2001 was termed as worst in the history of the country, which reduced the economic growth rate to 2.6 per cent as compared to an average growth rate of over 6 per cent. Furthermore the drought reduced the country's ability to produce hydro-electricity.

In general, per capita water availability is declining in Pakistan over time due to the combined impact of rising population, falling water flows and erosion in the storage capacity. The country's per capita water availability of 1136.5 cubic meters is only marginally above the threshold level of water scarcity i.e. 1000 cubic meters. Experts predict that with prevailing consumption rates and a population growth of 4 million people per year, one out of three people in Pakistan will face critical shortage of water, “threatening their very survival”. The Government has started National Water Resources Development Programme (NWRDP) 2000-2025. The program has formulated a strategy for water resources development and identified possible sites for dam construction with a total storage capacity of 35.66 MAF (Million Acre Feet).

Floods

Fifty six (56%) percent of the Indus river basin, one of the largest river basins in Asia, lies in Pakistan and covers approximately 70 % of the country's area (IUCN, 2005). The largest river in the basin is the Indus River with Chennab, Jhelum, Kabul, Ravi and Sutlaj rivers as its major tributaries.

Generally major floods in the Indus basin occur in late summer (July to September) when the South Asian region is subjected to heavy monsoon rains. In the upper to mid reaches of the Basin, it is generally the tributaries like Jhelum and Chennab rivers, which are the cause of flooding rather than the Indus River itself. The monsoon low depression that causes intense rain develops either in the Arabian sea or the Bay of Bengal. Major flooding is generally associated with the depression from the bay of Bengal moving across India in west/north-westerly direction and then turning north at the border with Pakistan.

The mountain ranges in the extreme north of Pakistan provide perennial source of inflow into the rivers. River floods particularly hit Punjab and Sindh while hill torrents tend to affect the hilly areas of KPK, Baluchistan and northern Federally Administrated Tribal Areas (FATA). Districts of Charsadda, Mardan, Nowshera and Peshawar in KPK are exposed to flood risks from the flooding in river Kabul.

Since many rivers are snow-fed, they are also likely to cause flooding due to heat wave in early summer, combined with early monsoon[5]. Floods in Pakistan can also occur due to the dam bursts. For example in February 2005, the floods hit Pasni in Baluchistan due to the Shadi Kor dam burst, resulting from a week of

5. Indus Basin River system-flooding and flood mitigation, H. Rehman, and A. Kamal.

torrential rains.
Economic damages resulting from annual flooding are a major burden on the country. Floods threaten country's vital agricultural, communication infrastructure and have caused damages and losses worth Rs. 225 billion (USD $ 4 billion) recorded for the ten largest floods since country's independence in 1947.

Landslides

The regions of Kashmir, Gilgit-Baltistan and parts of the KPK province in Pakistan are vulnerable to landslide hazard. Aside from the young geology and the fragile soil type of the mountain ranges, accelerated deforestation is a major cause behind increased incidences of the landslides in the region. In the aftermath of the 2005 earthquake the steep mountains in Kashmir and KPK came down tumbling. The landslides isolated already hard to reach villages and cities. In some cases wide sections of the mountain, more than a kilometre in width slid into the valleys below. Small scale isolated landslide hazards happen frequently in the above regions, which cause significant damages and losses at the local level. The incidences of landslides can increase in future, since due to deforestation, the forest cover is shrinking by 3.1 % and woody biomass by 5 % annually (7000-9000 has taken away annually).

Tsunami

Pakistan also has a history of tsunami disasters. A big tsunami was experienced on 28 November 1945, due to a great earthquake of magnitude 8.3, offshore Makran Coast south of Pasni during the early hours. The tsunami produced sea waves of 12-15 meters height that killed at least 4000 people in Pasni and adjoining areas. The tsunami waves reached as far as Mumbai in India. Karachi, about 450 kms from the epicentre, experienced 6 feet high sea waves which affected the harbour facilities. Fortunately when the sea wave occurred it was not the time of high tide at Karachi coast. The risk of the occurrence of a future tsunami from this source region exists. The fact that cities like Karachi lie close to the potential epicentres for large submarine earthquakes, demands attention for enhancement of local capacities for disaster risk reduction, early warning and response in order to reduce losses to life, property and environment from future earthquake or tsunami events. Tsunami may reach the coastal region within one hour. Thus, there is a need to put in place a warning system that would ensure that the warning message reaches the coastal inhabitants as soon as possible.

Cyclones/Storms

Coastal belt of Pakistan (especially in Sindh) is highly vulnerable to cyclones and associated storm surges. Fourteen cyclones were recorded between 1971 and 2001.

Cyclones can cause large scale damage to the coastal areas of Sindh and Baluchistan. The cyclone of 1999 in Thatta and Badin districts wiped out 73 settlements, and it killed 168 people, and 11,000 cattle. Nearly 0.6 million people were affected. It destroyed 1800 small and big boats and partially damaged 642 boats, causing a loss of Rs. 380 million. The losses to infrastructure were estimated at Rs. 750 million.

The climate change is causing increase in the frequency and intensity of storms and changes in their tracks. Although the frequency of cyclones is low along Pakistani coast, yet they cause considerable damage in the

area, when they occur. Coastal belt is mostly low-lying therefore storm surges extend several kilometres inland and they damage crops and convert the agricultural land into gully lands for long time. Strong winds create havoc by destroying human settlements, electric and communication installations and trees. In the aftermath of cyclones the areas are left water logged where cultivation is not possible for months due to the soil conditions.

Glacial Lake Outbursts Floods

Another likely scenario that can come into play is the burst of glacial lakes in the upstream of Indus basin due to heat waves, a phenomenon termed as Glacial Lake Outburst Flood (GLOF). A recent study found that, of the 2420 glacial lakes in the Indus basin, 52 lakes are potentially dangerous and could result in GLOF with serious damages to life and property. The study has also indicated that global warming can increase the potential of GLOF in future[6].

Avalanches

The Kashmir region and Gilgit-Baltistan in Pakistan experience avalanches on a regular seasonal basis. Local people in the hazardous region and the tourists are vulnerable to this hazard.

Industrial, Nuclear and Transport Accidents

Transport accidents are a common phenomenon in Pakistan. Particularly the train system in Pakistan is notorious for collisions. Hundreds of people have been killed in such accidents. Plane crashes and road accidents are not uncommon events. The growing industrialization particularly within urban settlements in cities like Gujranwala, Faislabad, Karachi, Lahore, Sialkot and elsewhere can be a source of major industrial disasters, although Pakistan has not experienced any such events in the past. The neighbouring India suffered from Bhopal Gas leakage in 1985, in which 5000 people were killed and enormous health hazards were experienced by citizens of Bhopal. Having installed various nuclear facilities and nuclear power stations, Pakistan is also exposed to the risks of nuclear accidents. The Chernobyl disaster in Russia must serve as a reminder in this regard.

Pakistan now has two ports in Karachi and Gwadar along the coast of Makran. These areas are at risk from marine accidents. In Karachi, in August 2003 the wreckage of Tasman Spirit a Greek old-ship caused colossal environmental losses and health hazards for the businesses, port workers and adjacent communities. About 28,000 ton oil spilled all over the harbour area, which affected marine life in a major way. The residents in the area reported headaches, nausea and respiratory problems in the weeks following the accident. It took months for the authorities to clear the oil affected areas.

Urban fires

Fortunately Pakistan has not experienced any major urban fire incidents so far. However, considering the

pace of urbanization, coupled with industrialization, the chances of urban fires can't be ignored. The CNG gas stations are installed in all urban areas and it is also sold at small shops and stores for household use. In small cities and towns the sale of petroleum products at small shops located within residential areas is also common. These practices combined with mass culture of smoking cigarettes could pose a major fire risk. The fire services in urban centres, except Karachi, are poorly equipped.

Civil Conflicts

Pakistan is a diverse society, ethnically, linguistically, religiously and culturally. This diversity has some times led towards civil conflicts amongst various social groups. For example, Pakistan has suffered sectarian conflicts during the 1980s and 1990s. These conflicts caused loss of life and damage to property, while creating insecurity for various social groups in the affected areas.

Priorities of Hyogo Framework for Action

The World Conference on Disaster Reduction was held from 18th to 22nd January 2005 in Kobe, Hyogo, Japan, and adopted the present Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (here after referred to as the "Framework for Action"). The Conference provided a unique opportunity to promote a strategic and systematic approach to reducing vulnerabilities and risks to hazards. It underscored the need for, and identified ways of, building the resilience of nations and communities to disasters.

Priorities for action 2005 - 2015

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

Countries that develop policy, legislative and institutional frameworks for disaster risk reduction and that are able to develop and track progress through specific and measurable indicators have greater capacity to manage risks and to achieve widespread consensus for, engagement in and compliance with disaster risk reduction measures across all sectors of society.

Key activities:

(i) National institutional and legislative frameworks

(a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. National platforms should also facilitate coordination across sectors, including by maintaining a broad based dialogue at national and regional levels for promoting awareness among the relevant sectors.

(b) Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, including in poverty reduction strategies and sectors and multi sector policies and plans.

(c) Adopt, or modify where necessary, legislation to support disaster risk reduction, including regulations and mechanisms that encourage compliance and that promote incentives for undertaking risk reduction and mitigation activities.

(d) Recognize the importance and specificity of local risk patterns and trends, decentralize responsibilities and resources for disaster risk reduction to relevant sub-national or local authorities, as appropriate.

(ii) Resources

(e) Assess existing human resource capacities for disaster risk reduction at all levels and develop capacity-building plans and programmes for meeting ongoing and future requirements.

(f) Allocate resources for the development and the implementation of disaster risk management policies, programmes, laws and regulations on disaster risk reduction in all relevant sectors and authorities at all levels of administrative and budgets on the basis of clearly prioritized actions.

(g) Governments should demonstrate the strong political determination required to promote and integrate disaster risk reduction into development programming.

(iii) Community participation

(h) Promote community participation in disaster risk reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.

2. Identify, assess and monitor disaster risks and enhance early warning

The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.

Key activities:

(i) National and local risk assessments

(a) Develop, update periodically and widely disseminate risk maps and related information to

decision-makers, the general public and communities at risk in an appropriate format.

(b) Develop systems of indicators of disaster risk and vulnerability at national and sub-national scales that will enable decision-makers to assess the impact of disasters on social, economic and environmental conditions and disseminate the results to decision-makers, the public and populations at risk.

(c) Record, analyze, summarize and disseminate statistical information on disaster occurrence, impacts and losses, on regular basis through international, regional, national and local mechanisms.

(ii) Early warning

(d) Develop early warning systems that are people centered, in particular systems whose warnings are timely and understandable to those at risk, which take into account the demographic, gender, cultural and livelihood characteristics of the target audiences, including guidance on how to act upon warnings, and that support effective operations by disaster managers and other decision makers.

(e) Establish, periodically review, and maintain information systems as part of early warning systems with a view to ensure that rapid and coordinated action is taken in cases of alert/emergency.

(f) Establish institutional capacities to ensure that early warning systems are well integrated into governmental policy and decision-making processes and emergency management systems at both the national and the local levels, and are subject to regular system testing and performance assessments.

(g) Implement the outcome of the Second International Conference on Early Warning held in Bonn, Germany, in 2003, including through the strengthening of coordination and cooperation among all relevant sectors and actors in the early warning chain in order to achieve fully effective early warning systems.

(h) Implement the outcome of the Mauritius Strategy for the further implementation of the Barbados Programme of Action for the sustainable development of Small Island developing States, including by establishing and strengthening effective early warning systems as well as other mitigation and response measures.

(iii) Capacity

(i) Support the development and sustainability of the infrastructure and scientific, technological, technical and institutional capacities needed to research, observe, analyse, map and where possible forecast natural and related hazards, vulnerabilities and disaster impacts.

(j) Support the development and improvement of relevant databases and the promotion of full and open exchange and dissemination of data for assessment, monitoring and early warning purposes, as appropriate, at international, regional, national and local levels.

(k) Support the improvement of scientific and technical methods and capacities for risk assessment, monitoring and early warning, through research, partnerships, training and technical capacity- building. Promote the application of in situ and space based earth observations, space technologies, remote sensing, geographic information systems, hazard modelling and prediction, weather and climate modelling and forecasting, communication tools and studies of the costs and benefits of risk assessment and early warning.

(l) Establish and strengthen the capacity to record, analyze, summarize, disseminate, and exchange statistical information and data on hazards mapping, disaster risks, impacts, and losses; support the development of common methodologies for risk assessment and monitoring.

(iv) Regional and emerging risks

(m) Compile and standardize, as appropriate, statistical information and data on regional disaster risks, impacts and losses.

(n) Cooperate regionally and internationally, as appropriate, to assess and monitor regional and trans-boundary hazards, and exchange information and provide early warnings through appropriate arrangements, such as, inter alia, those relating to the management of river basins.

(o) Research, analyse and report on long-term changes and emerging issues that might increase vulnerabilities and risks or the capacity of authorities and communities to respond to disasters.

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

Disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities.

Key activities:

(i) Information management and exchange

(a) Provide easily understandable information on disaster risks and protection options, especially to citizens in high-risk areas, to encourage and enable people to take action to reduce risks and build resilience. The information should incorporate relevant traditional and indigenous knowledge and culture heritage and be tailored to different target audiences, taking into account cultural and social factors.

(b) Strengthen networks among disaster experts, managers and planners across sectors and between regions, and create or strengthen procedures for using available expertise when

agencies and other important actors develop local risk reduction plans.

(c) Promote and improve dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction, and encourage partnerships among stakeholders, including those working on the socioeconomic dimensions of disaster risk reduction.

(d) Promote the use, application and affordability of recent information, communication and space-based technologies and related services, as well as earth observations, to support disaster risk reduction, particularly for training and for the sharing and dissemination of information among different categories of users.

(e) In the medium term, develop local, national, regional and international user friendly directories, inventories and national information-sharing systems and services for the exchange of information on good practices, cost-effective and easy-to-use disaster risk reduction technologies, and lessons learned on policies, plans and measures for disaster risk reduction.

(f) Institutions dealing with urban development should provide information to the public on disaster reduction options prior to constructions, land purchase or land sale.

(g) Update and widely disseminate international standard terminology related to disaster risk reduction, at least in all official United Nations languages, for use in programme and institutional development, operations, research, training curricula and public information programmes.

(ii) Education and training

(h) Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information; promote the integration of disaster risk reduction as an intrinsic element of the United Nations Decade of Education for Sustainable Development (2005-2015).

(i) Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education.

(j) Promote the implementation of programmes and activities in schools for learning how to minimize the effects of hazards.

(k) Develop training and learning programmes in disaster risk reduction targeted at specific sectors (development planners, emergency managers, local government officials, etc.).

(l) Promote community-based training initiatives, considering the role of volunteers, as appropriate, to enhance local capacities to mitigate and cope with disasters.

(m) Ensure equal access to appropriate training and educational opportunities for women

and vulnerable constituencies; promote gender and cultural sensitivity training as integral components of education and training for disaster risk reduction.

(iii) Research

(n) Develop improved methods for predictive multi-risk assessments and socioeconomic cost benefit analysis of risk reduction actions at all levels; incorporate these methods into decision-making processes at regional, national and local levels.

(o) Strengthen the technical and scientific capacity to develop and apply methodologies, studies and models to assess vulnerabilities and the impact of geological, weather, water and climate-related hazards, including the improvement of regional monitoring capacities and assessments.

(iv) Public awareness

(p) Promote the engagement of media in order to stimulate a culture of disaster resilience and strong community involvement in sustained public education campaigns and public consultations at all levels of society.

4. Reduce the underlying risk factors

Disaster risks related to changing social, economic, environmental conditions and land use, and the impact of hazards associated with geological events, weather, water, climate variability and climate change, are addressed in sector development planning and programmes as well as in post-disaster situations.

Key activities:

(i) Environmental and natural resource management

(a) Encourage the sustainable use and management of ecosystems, including through better land use planning and development activities to reduce risk and vulnerabilities.

(b) Implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction, including structural and non-structural measures, such as integrated flood management and appropriate management of fragile ecosystems.

(c) Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to

climate change, which would include the clear identification of climate related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information by planners, engineers and other decision-makers.

(ii) Social and economic development practices

(d) Promote food security as an important factor in ensuring the resilience of communities to hazards, particularly in areas prone to drought, flood, cyclones and other hazards that can weaken agriculture-based livelihoods.

(e) Integrate disaster risk reduction planning into the health sector; promote the goal of "hospitals safe from disaster" by ensuring that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations and implement mitigation measures to reinforce existing health facilities, particularly those providing primary health care.

(f) Protect and strengthen critical public facilities and physical infrastructure, particularly schools, clinics, hospitals, water and power plants, communications and transport lifelines, disaster warning and management centres, and culturally important lands and structures through proper design, retrofitting and re-building, in order to render them adequately resilient to hazards.

(g) Strengthen the implementation of social safety-net mechanisms to assist the poor, the elderly and the disabled, and other populations affected by disasters. Enhance recovery schemes including psycho-social training programmes in order to mitigate the psychological damage of vulnerable populations, particularly children, in the aftermath of disasters.

(h) Incorporate disaster risk reduction measures into post-disaster recovery and rehabilitation processes and use opportunities during the recovery phase to develop capacities that reduce disaster risk in the long term, including through the sharing of expertise, knowledge and lessons learned.

(i) Endeavor to ensure, as appropriate, that programmes for displaced persons do not increase risk and vulnerability to hazards.

(j) Promote diversified income options for populations in high-risk areas to reduce their vulnerability to hazards, and ensure that their income and assets are not undermined by development policy and processes that increase their vulnerability to disasters.

(k) Promote the development of financial risk-sharing mechanisms, particularly insurance and reinsurance against disasters.

(l) Promote the establishment of public private partnerships to better engage the private sector in disaster risk reduction activities; encourage the private sector to foster a culture of disaster prevention, putting greater emphasis on, and allocating resources to, pre-

disaster activities such as risk assessments and early warning systems.

(m) Develop and promote alternative and innovative financial instruments for addressing disaster risk.

(iii) Land - Use planning and other technical measures

(n) Incorporate disaster risk assessments into the urban planning and management of disaster-prone human settlements, in particular highly populated areas and quickly urbanizing settlements. The issues of informal or non-permanent housing and the location of housing in high-risk areas should be addressed as priorities, including in the framework of urban poverty reduction and slum-upgrading programmes.

(o) Mainstream disaster risk considerations into planning procedures for major infrastructure projects, including the criteria for design, approval and implementation of such projects and considerations based on social, economic and environmental impact assessments.

(p) Develop, upgrade and encourage the use of guidelines and monitoring tools for the reduction of disaster risk in the context of land-use policy and planning.

(q) Incorporate disaster risk assessment into rural development planning and management, in particular with regard to mountain and coastal flood plain areas, including through the identification of land zones that are available and safe for human settlement,

(r) Encourage the revision of existing or the development of new building codes, standards, rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable in the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, monitor and enforce such codes, through a consensus-based approach, with a view to fostering disaster-resistant structures.

(5) Strengthen disaster preparedness for effective response at all levels

At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management.

Key activities:

(a) Strengthen policy, technical and institutional capacities in regional, national and local disaster management, including those related to technology, training, and human and material resources.

(b) Promote and support dialogue, exchange of information and coordination among early

warning, disaster risk reduction, disaster response, development and other relevant agencies and institutions at all levels, with the aim of fostering a holistic approach towards disaster risk reduction.

(c) Strengthen and when necessary develop coordinated regional approaches, and create or upgrade regional policies, operational mechanisms, plans and communication systems to prepare for and ensure rapid and effective disaster response in situations that exceed national coping capacities.

(d) Prepare or review and periodically update disaster preparedness and contingency plans and policies at all levels, with a particular focus on the most vulnerable areas and groups. Promote regular disaster preparedness exercises, including evacuation drills, with a view to ensuring rapid and effective disaster response and access to essential food and non-food relief supplies, as appropriate, to local needs.

(e) Promote the establishment of emergency funds, where and as appropriate, to support response, recovery and preparedness measures.

(f) Develop specific mechanisms to engage the active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism.

Implementation and Follow-Up

A. General Considerations

The implementation of and follow-up to the strategic goals and priorities for action set out in this Framework for Action should be addressed by different stakeholders in a multi-sectoral approach, including the development sector. States, regional and international organizations, including the United Nations and international financial institutions, are called upon to integrate disaster risk reduction considerations into their sustainable development policy, planning and programming at all levels. Civil society, including volunteers and community-based organizations, the scientific community and the private sector are vital stakeholders in supporting the implementation of disaster risk reduction at all levels.

While each State has primary responsibility for its own economic and social development, an enabling international environment is vital to stimulate and contribute to developing the knowledge, capacities and motivation needed to build disaster resilient nations and communities. States, regional and international organizations should foster greater strategic coordination among the United Nations, other international organizations, including international financial institutions, regional bodies, donor agencies and non-governmental organizations engaged in disaster risk reduction, based on a strengthened International Strategy for Disaster Reduction. In the coming years, consideration should be given to ensure the implementation and strengthening of relevant international legal instruments related to disaster risk reduction.

States, regional and international organizations should also support the capacities of regional mechanisms and organizations to develop regional plans, policies and common practices, as appropriate, in support of

networking, advocacy, coordination, exchange of information and experience, scientific monitoring of hazards and vulnerability, and institutional capacity development and to deal with disaster risks.

All actors are encouraged to build multi-stakeholder partnerships, at all levels, as appropriate, and on a voluntary basis, to contribute to the implementation of this Framework for Action. States and other actors are also encouraged to promote the strengthening or establishment of national, regional and international volunteer corps, which can be made available to countries and to the international community to contribute for addressing vulnerability and reducing disaster risk.

The Mauritius Strategy for the further implementation of the Barbados Programme of Action for Small Island Developing States underscores that small island developing States are located among the most vulnerable regions in the world in relation to the intensity and frequency of natural and environmental disasters and their increasing impact, and face disproportionately high economic, social and environmental consequences. Small island developing States have undertaken to strengthen their respective national frameworks for more effective disaster management and are committed, with the necessary support of the international community, to improve national disaster mitigation, preparedness and early warning capacity, increase public awareness about disaster reduction, stimulate interdisciplinary and inter-sectoral partnerships, mainstream risk management into their national planning process, address issues relating to insurance and reinsurance arrangements, and augment their capacity to predict and respond to emergency situations, including those affecting human settlements stemming from natural and environmental disasters.

In view of the particular vulnerabilities and insufficient capacities of least developed countries to respond to and recover from disasters, support is needed by the least developed countries as a matter of priority, in executing substantive programmes and relevant institutional mechanisms for the implementation of the Framework for Action, including through financial and technical assistance and for capacity building in disaster risk reduction as an effective and sustainable means to prevent and respond to disasters.

Disasters in Africa pose a major obstacle to the African’s continent efforts to achieve sustainable development, especially in view of the region's insufficient capacities to predict, monitor, deal with and mitigate disasters. Reducing the vulnerability of the African people to hazards is a necessary element of poverty reduction strategies, including efforts to protect past development gains. Financial and technical assistance is needed to strengthen the capacities of African countries, including observation and early warning systems, assessments, prevention, preparedness, response and recovery.

The follow-up on the World Conference on Disaster Reduction will, as appropriate, be an integrated and coordinated part of the follow-up to other major conference in fields relevant to disaster risk reduction. This should include specific reference to progress on disaster risk reduction taking into account agreed development goals, including those found in the Millennium Declaration.

The implementation of this Framework for Action for the period 2005-2015 will be appropriately reviewed.

B. States

All States should endeavor to undertake the following tasks at the national and local levels, with a strong sense of ownership and in collaboration with civil society and other stakeholders, within the bounds of their financial, human and material capacities, and taking into account their domestic legal requirements and existing international instruments related to disaster risk reduction. States should also contribute actively in the context of regional and international cooperation.

(a) Prepare and publish national baseline assessments of the status of disaster risk reduction, according to the capabilities, needs and policies of each State, and, as appropriate, share this information with concerned regional and international bodies;

(b) Designate an appropriate national coordination mechanism for the implementation and follow up of this Framework for Action, and communicate the information to the secretariat of the International Strategy for Disaster Reduction;

(c) Publish and periodically update a summary of national programmes for disaster risk reduction related to this Framework for Action, including on international cooperation;

(d) Develop procedures for reviewing national progress against this Framework for Action, which should include systems for cost benefit analysis and ongoing monitoring and assessment of vulnerability and risk, in particular with regards to regions exposed to hydrometeorological and seismic hazards, as appropriate;

(e) Include information on progress of disaster risk reduction in the reporting mechanisms of existing international and other frameworks concerning sustainable development, as appropriate;

(f) Consider, as appropriate, acceding to, approving or ratifying relevant international legal instruments relating to disaster reduction, and, for State parties to those instruments, take measures for their effective implementation;

(g) Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change; ensure that the management of risks associated with geological hazards, such as earthquakes and landslides, are fully taken into account in disaster risk reduction programmes.

C. Regional organizations and institutions

Regional organizations with a role related to disaster risk reduction are called upon to undertake the following tasks within their mandates, priorities and resources:

(a) Promote regional programmes, including programmes for technical cooperation, capacity

development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources, in view of supporting national and regional efforts to achieve the objectives of this Framework for Action;

(b) Undertake and publish regional and sub-regional baseline assessments of the disaster risk reduction status, according to the needs identified and in line with their mandates;

(c) Coordinate and publish periodic reviews on progress in the region and on impediments and support needs, and assist countries, as requested, in the preparation of periodic national summaries of their programmes and progress;

(d) Establish or strengthen existing specialized regional collaborative centers, as appropriate, to undertake research, training, education and capacity building in the field of disaster risk reduction;

(e) Support the development of regional mechanisms and capacities for early warning to disasters, including for tsunami.

D. International organizations

International organizations, including organizations of the United Nations system and international financial institutions, are called upon to undertake the following tasks within their mandates, priorities and resources:

(a) Engage fully in supporting and implementing the International Strategy for Disaster Reduction, and cooperate to advance integrated approaches to building disaster resilient nations and communities, by encouraging stronger linkages, coherence and integration of disaster risk reduction elements into the humanitarian and sustainable development fields as set out in this Framework for Action;

(b) Strengthen the overall capacity of the United Nations system to assist disaster-prone developing countries in disaster risk reduction through appropriate means and coordination and define and implement appropriate measures for regular assessment of their progress towards the achievement of the goals and priorities set out in this Framework for Action, building on the International Strategy for Disaster Reduction;

(c) Identify relevant actions to assist disaster-prone developing countries in the implementation of this Framework for Action; ensure that relevant actions are integrated, as appropriate, into each organization's own scientific, humanitarian and development sectors, policies, programmes and practices and that adequate funding is allocated for their implementation;

(d) Assist disaster-prone developing countries to set up national strategies and plans of action and programmes for disaster risk reduction and to develop their institutional and technical capacities in the field of disaster risk reduction, as identified through the priorities in this Framework for Action;

(e) Integrate actions in support of the implementation of this Framework into relevant coordination mechanisms such as the United Nations Development Group and the Inter-Agency Standing Committee (on humanitarian action), including at the national level and through the Resident Coordinator system and the United Nations Country teams. In addition, integrate disaster risk reduction considerations into development assistance frameworks, such as the Common Country

Assessments, the United Nations Development Assistance Framework and poverty reduction strategies;

(f) In close collaboration with existing networks and platforms, cooperate to support globally consistent data collection and forecasting on natural hazards, vulnerabilities and risks and disaster impacts at all scales. These initiatives should include the development of standards, the maintenance of databases, the development of indicators and indices, support to early warning systems, the full and open exchange of data and the use of in situ and remotely sensed observations;

(g) Support States with the provision of appropriate, timely and well coordinated international relief assistance, upon request of affected countries, and in accordance with agreed guiding principles for emergency relief assistance and coordination arrangements. Provide this assistance with a view to reducing risk and vulnerability, improving capacities and ensuring effective arrangements for international cooperation for urban search and rescue assistance. Ensure that arrangements for prompt international response to reach affected areas are being developed at national and local levels and that appropriate linkages to recovery efforts and risk reduction are strengthened;

(h) Strengthen the international mechanisms with a view to supporting disaster stricken States in the transition phase towards sustainable physical, social and economic recovery and to reduce future risks. This should include support for risk reduction activities in post-disaster recovery and rehabilitation processes and sharing of good practices, knowledge and technical support with relevant countries, experts and United Nations organizations;

(i) Strengthen and adapt the existing inter-agency disaster management training programme based on a shared, inter-agency strategic vision and framework for disaster risk management that encompasses risk reduction, preparedness, response and recovery.

E. The International Strategy for Disaster Reduction

The partners in the International Strategy for Disaster Reduction, in particular, the Inter-Agency Task Force on Disaster Reduction and its members, in collaboration with relevant national, regional, international and United Nations bodies and supported by the inter-agency secretariat for the International Strategy for Disaster Reduction, are requested to assist in implementing this Framework for Action as follows, subject to the decisions taken upon completion of the review process of the current mechanism and institutional arrangements:

(a) Develop a matrix of roles and initiatives in support of follow-up to this Framework for Action, involving individual members of the Task Force and other international partners;

(b) Facilitate the coordination of effective and integrated action within the organizations of the United Nations system and among other relevant international and regional entities, in accordance with their respective mandates, to support the implementation of this Framework for Action, identify gaps in implementation and facilitate consultative processes to develop guidelines and policy tools for each priority area, with relevant national, regional and international expertise;

(c) Consult with relevant United Nations agencies and organizations, regional and multilateral organizations and technical and scientific institutions, as well as interested States and civil society,

with the view to develop generic, realistic and measurable indicators, keeping in mind available resources of individual States. These indicators could assist States to assess their progress in the implementation of the Framework of Action. The indicators should be in conformity with the internationally agreed development goals, including those contained in the Millennium Declaration; Once that first stage has been completed, States are encouraged to develop or refine indicators at the national level reflecting their individual disaster risk reduction priorities, drawing upon the generic indicators.

(d) Ensure support to national platforms for disaster reduction, including through the clear articulation of their role and value added, as well as regional coordination, to support the different advocacy and policy needs and priorities set out in this Framework for Action, through coordinated regional facilities for disaster reduction, building on regional programmes and outreach advisors from relevant partners;

(e) Coordinate with the secretariat of the Commission on Sustainable Development to ensure that relevant partnerships contributing to implementation of the Framework for Action are registered in its sustainable development partnership database;

(f) Stimulate the exchange, compilation, analysis, summary and dissemination of best practices, lessons learned, available technologies and programmes, to support disaster risk reduction in its capacity as an international information clearing house; maintain a global information platform on disaster risk reduction and a web-based register "portfolio" of disaster risk reduction programmes and initiatives implemented by States and through regional and international partnerships;

(g) Prepare periodic reviews on progress towards achieving the objectives and priorities of this Framework for Action, within the context of the process of integrated and coordinated follow-up and implementation of United Nations conferences and summits as mandated by the General Assembly, and provide reports and summaries to the Assembly and other United Nations bodies, as requested or as appropriate, based on information from national platforms, regional and international organizations and other stakeholders, including on the follow-up to the implementation of the recommendations from the Second International Conference on Early Warning (2003).

F. Resource mobilization

States, within the bounds of their financial capabilities, regional and international organizations, through appropriate multilateral, regional and bilateral coordination mechanisms, should undertake the following tasks to mobilize the necessary resources to support implementation of this Framework for Action:

(a) Mobilize the appropriate resources and capabilities of relevant national, regional and international bodies, including the United Nations system;

(b) Provide for and support, through bilateral and multilateral channels, the implementation of this Framework for Action in disaster-prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer on mutually agreed terms, and public private partnerships, and encourage North South and South South cooperation;

(c) Mainstream disaster risk reduction measures appropriately into multilateral and bilateral

development assistance programmes including those related to poverty eduction, natural resource management, urban development and adaptation to climate change;

(d) Provide adequate voluntary financial contributions to the United Nations Trust Fund for Disaster Reduction, in the effort to ensure the adequate support for the follow-up activities to this Framework for Action. Review the current usage and feasibility for the expansion of this fund, inter alia, to assist disaster-prone developing countries to set up national strategies for disaster risk reduction.

(e) Develop partnerships to implement schemes that spread out risks, reduce insurance premiums, expand insurance coverage and thereby increase financing for post disaster reconstruction and rehabilitation, including through public and private partnerships, as appropriate. Promote an environment that encourages a culture of insurance in developing countries, as appropriate.

Important Contact Numbers

National Disaster Management Authority (NDMA)
Prime Minister's Secretariat, Islamabad
Phone (Off): 0092-051-9214295 & 051-9214295
Fax: 0092-051-9213082
Email: mops@ndma.gov.pk
URL: www.ndma.gov.pk

Provincial Disaster Management Authority-Khyber Pukhtunkhwa
Civil Secretariat, Peshawar, KPK
Phone (Off): 0092-091-9213867, 9211854,
Fax: 0092-091-9214025
URL: http://www.pdma.gov.pk/index.php

Provincial Disaster Management Authority-Balochistan
Food Grain Silos, Airport Road, Quetta
Phone (Off): 0092-081-2880245
Fax: 0092-081-9201720, 2880189

Provincial Disaster Management Authority-Sindh
No.C-52, Block II, KDA Scheme No.5, Clifton, Karachi, 75600
Phone (Off): 0092-021-99251458-9, 35830193-4.
Fax: 0092-021-35830087
E-mail: sindhpdma@gmail.com & mshayyanshah@hotmail.com
URL: http://www.pdma.gos.pk/pdma/

Provincial Disaster Management Authority-Punjab
48/8, Lawrence Road, Lahore
Phone (Off): 0092-042-99204403 and 042- 99204409
Fax: 0092-042-99204405

State Disaster Management Authority-AJK
Civil Secretariat, Chatter, First Floor, Block 10,
Opposite AJK Legislative Assembly, Muzaffarabad, AJK.
Phone (Off): 0092-05822-921536,
Fax: 0092-05822-921537
Email: info.sdma@gmail.com
URL: www.sdma.gok.pk

Gilgit - Baltistan Disaster Management Authority-Gilgit-Baltistan
Babar Road, Chinar Bagh, Gilgit - Baltistan
Phone (Off): 0092-05811-920874
Fax: 0092-05811-50422

FATA Disaster Management Authority
38-D/II, Old Jamrud Road, University Town, Peshawar.
Phone (Off): 0092-091-9214012, 9212143, 92112158
Fax: 0092-091-9212137, 9210578, 9213867, 9212154,

Pakistan Red Crescent Society
PRCS National Headquarters, H-8, Islamabad.
Ph: 0092-051-9250404-5
Fax: 0092-051-9250413
E-mail: hilal@isb.comsats.net.pk

Pakistan Red Crescent Society Punjab
PRCS Punjab Provincial Branch,
Red Crescent Building,
2 Shahrah-e-Fatima Jinnah, Lahore
Email: info@prcspunjab.com
Phone (Off): 0092-042-36304702 , 36304703
Fax :0092-042-36312253

Pakistan Red Crescent Society Sindh
PRCS Sindh Provincial Branch,
Hilal-e Ahmar House, Main Clifton Road, Karachi.
Phone (Off): 0092-021-35833973,35836281,35875798
Fax : 0092-021-35830376
E-mail :prcsindh@cyber.net.pk

Pakistan Red Crescent Society Khyber Pakhtunkhwa
PRCS KPK Branch, Dabgari Gardens, Peshawar.
Email: prcsnwfp@brain.net.pk
Phone (Off): 0092-091-2210836-2590846
Fax : 0092-091-210836

Pakistan Red Crescent Society Balochistan
PRCS Balochistan Provincial Branch,
Alamo Chowk, Airport Road, Quetta.
Phone (Off): 0092-081-2826032
Fax: 0092-081-826032

Pakistan Red Crescent Society AJK
Disaster Management & Logistic Support Center
PRCS AJK Upper Chattar,
Muzaffarabad, AJK.
Phone (Off): 0092-05822-433567-9
Fax : 0092-05822-34813

Pakistan Red Crescent Society FATA
House No - 107, Street No -11,
Defence Officers Colony, Peshawar.
Phone (Off): 0092-091-5254383
Fax: 0092-091-5254384

Pakistan Red Crescent Society Gilgit-Baltistan
Naveed Shaheed Road,
Zulfiqarabad, Gilgit Baltistan
Phone (Off): 0092-05811-920372
Fax: 0092-05811-59737

OXFAM GB
House 201, Street # 10, E-7, Islamabad
Phone (Off): 0092-051-2653341-42
Fax: 0092-051-2653491
Email: asuleri@oxfam.org.uk

OXFAM Novib
H # 129, St # 10, E-7, Islamabad
Phone (Off): 0092-051-2654931
Fax: 0092-051-8356780

Care International Pakistan
House 40, Khayaban-e-Iqbal
Near Zafar Chowk, F-8/3, Islamabad
Phone (Off): 0092-051-285 5924-5, 0092-051-225 4738-9, 0092-0512851293-4
Fax 0092-051-2855926
Email- mail@careinternational.org.pk

Save the Children UK
House # 97, Main Double Road,
F-10/1, Islamabad
Phone (Off): 0092-051-2113324
Fax: 0092-051-2113317

Concern Worldwide Pakistan
House # 11- A, Main Agha Khan Road
F-6/3, Islamabad
Phone (Off): 0092-051-2270447-8,
Fax: 0092-051-2825336

United Nations Development Programme
Serena Business Complex,
Khayaban-e-Suharwardy Road
Islamabad, Pakistan
Phone (Off): 0092-051-8355600
Fax: 0092-051-2655014

United Nations Children's Fund
90 Margalla Road, F-8/2, Islamabad
Phone (Off): 0092-051-2097711-2097700-30
Fax: 0092-051-2097799

United Nations High Commissioner for Refugees
Diplomatic Enclave No. 2,
Quaid-e-Azam University Road,
Sector G-4, Islamabad
Phone (Off): 0092-051-2279451, 2829502-6

World Food Programme
House No. 3, Street 2, F-8/4, Islamabad
Phone (Off): 0092-051-2286898, 111-937-937
Fax: 0092-051-2286905

World Health Organization
Near N.I.H. Hospital, Chak Shahzad,
Islamabad
Phone (Off): 0092-051-9255185-84, 9255077
Fax: 0092-051-9255083
Email: wr@pak.emro.who.int

Office for the Coordination of Humanitarian Affairs UNOCHA
Serena Business Complex,
Khayaban-e-Suharwardy Road,
Islamabad, Pakistan
Phone (Off): 0092-051 8355600
Fax: 0092-051-2655014

UN-HABITAT
40 Orchard Road, Near Margalla Town,
Murree Road, Islamabad
Phone (Off): 0092-051-2612923
Fax: 0092-051-2612924

Sungi Development Foundation
House # 1692/C, Civil Lines, Circular Road,
Abbottabad
Phone (Off): 0092-0992-992-334750, 333414, 337311-16
Fax: 0092-0992-331726

Doaba Foundation
Mohalla Old Talkot, Jhang Road,
Muzaffargarh-Punjab
Phone (Off): 0092-066-2427553
Fax- 0092-066-2423374
Email- info@doaba-foundation.org