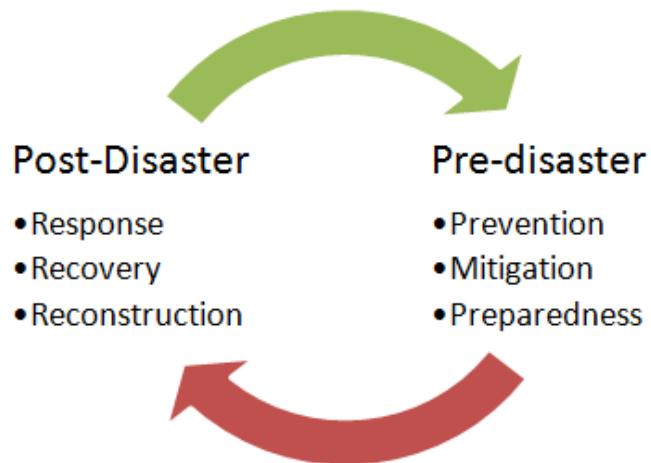


Disaster management is fundamentally **disaster risk management**. Sum total of all activities, programmes and measures which can be taken *up before, during and after a disaster* with the purpose to avoid a disaster, reduce its impact or recover from its losses is called Disaster Risk Management. There are three stages of the disaster risk management which are collectively called *Disaster Management Cycle*. Broadly, there are six phases in Disaster Management Cycle viz. Prevention, Mitigation, Preparedness, Response, Recovery and Reconstruction.



While Prevention, Mitigation and Preparedness include **Pre-disaster** activities focussed on reducing the human and property losses caused by a potential hazard; Response, Recovery and Reconstruction include the **Post-disaster** initiatives taken in response to a disaster with a purpose to achieve early recovery and rehabilitation of affected victims and communities.

Contents [hide]

[Disaster Prevention and Mitigation](#)

[Disaster Preparedness](#)

[Response, Recovery and Reconstruction](#)

Disaster Prevention and Mitigation

Disaster **prevention and mitigation** refers to the activities which are undertaken to prevent or mitigate the adverse effects of a disaster in short and long term. On the one hand they include political, legal, administrative and infrastructural measures; while on the other hand it includes educating vulnerable communities influencing their lifestyle and behaviour in order to reduce their disaster risk.

Disaster Preparedness

The intention of **Disaster preparedness** is to prevent or minimize the losses and damage in case of a disaster. This would include the preparedness of all civic bodies such as civil administration, fire-brigade, hospitals, police etc. Preparedness denotes the third phase of emergency management.

Response, Recovery and Reconstruction

The **response phase** includes the search and rescue; fulfilling basic humanitarian needs of victims ; assistance by regional, national and international bodies etc. **Recovery phase** starts after the immediate threat to human life has subsided. The immediate goal of the recovery phase is to bring the affected area back to some degree of normalcy. During **reconstruction**, the location or construction material of the property is considered.

vulnerabilities to floods and earthquakes

✓ Searching for: vulnerabilities to floods and earthquakes

✓ Generating answers for you...



India is vulnerable to a large number of disasters. Around 59% of the landmass is prone to earthquakes of moderate to very high intensity. About 12% (over 40 million hectares) of its land is prone to floods and river erosion ¹.

[Earthquakes can influence flood hazards by altering the flux, volumes, and distributions of surface and/or subsurface waters and causing physical changes to natural and engineered environments \(e.g., elevation, topographic relief, permeability\) that affect surface and subsurface hydrologic regimes](#) ².

Human systems are vulnerable to floods due to three vital aspects: Exposure, susceptibility and resilience. Exposure refers to people and their surroundings and every element present in flood prone area being exposed to the flood impacts as a subject to potential losses ³.

I hope this helps. Let me know if you have any other questions.

Learn more:

1 of 30

[1. insightsontindia.com](#) [2. mdpi.com](#) [+3 more](#)

What are some ways to prepare for floods and earthquakes?

✓ Searching for: ways to prepare for floods and earthquakes

✓ Generating answers for you...

Here are some ways to prepare for floods and earthquakes:

- Build or restock your emergency preparedness kit, including a flashlight, batteries, cash, and first aid supplies. Consider buying flood insurance. Review property insurance policies as many do not include coverage for floods. Familiarize yourself with local emergency plans ¹.
- Inspect and secure your home's structure. Strengthen the areas of connection between beams, posts, joists, and plates using "T" and "L" straps, mending plates,... Check your chimney or roof for loose tiles and bricks that could fall in an earthquake. Repair loose tiles or bricks ².
- Avoid low spots, like ditches, basements, or underpasses. These become extremely dangerous during a flash flood. Do not walk through flooded areas. It can be difficult to tell how deep the water is and what lies underneath the water that could hurt you ³.

I hope this helps. Let me know if you have any other questions.

Learn more:

2 of 30

[1. moreprepared.com](#) [2. cdc.gov](#) [+3 more](#)

Tell me more about the emergency plans.

✓ Searching for: emergency plans for natural disasters

✓ Generating answers for you...

Emergency plans are designed to help you and your family prepare for natural disasters. The first step in creating an emergency preparedness plan is identifying the greatest risks that a natural disaster presents to your organization. Also known as a risk assessment, the purpose of this exercise is to evaluate the likelihood of those risks and their impact on the organization's critical business functions ¹.

Another essential part of natural disaster preparedness is an Emergency Action Plan. As defined by OSHA, "the purpose of an EAP is to facilitate and organize employer and employee actions during workplace emergencies." ²

I hope this helps. Let me know if you have any other questions.

Learn more:

3 of 30

Ask me anything...



New Delhi | Jagran News Desk: From earthquakes to cyclones to lockdown to losing power for several days, the year 2020 has been full of natural calamities that have affected our lives in different ways and forced us to prepare for the worst. We might not know when a natural calamity might strike us anytime and thus it has become extremely important for us to prepare for the worst of the situation.

So as you prepare yourself for an earthquake, cyclone or any other natural calamity, **here's a list of things that you should always keep in your emergency kit:**

Water and ready-to-eat food

Food and water are the most important thing for survival. Therefore, you should always have water and ready-to-eat food in your emergency kit. Remember that you should always carry food and water for at least three days.

Also Read

Rajkot: Two Students Die Of Cardiac Arrest In Separate Incidents In Schools

First aid kit:

First aid kit is very important and you should always have some extra medicines, Band-Aids, antibiotic ointment, hand sanitizers, etc. in your emergency kit.

Tools:

You should always carry tools like candles, scissors, flashlight, extra batteries, a knife, etc. with yourself. You might never what of the above-mentioned things might help you during a crisis and save your life.

Cash:

It is advisable to carry an extra amount of cash in your emergency kit. During a crisis, ATMs and banks might not work and you might run out of cash. To avoid that situation, you should always carry some cash with you.

Also Read

Vagrant Man Stabbed To Death By Husband Who Suspected Wife's Affair

Documents:

Always keep your important documents like driving license, Aadhar card, passport, birth certificates, ration card, etc. in your emergency kit. These are all important documents and a person just can't afford them to lose.

Mobile phone and portable cell phone battery

You should always carry your charger with your phone. You can also keep a portable cell phone battery, which attaches to your phone via a USB charger, with yourself during a crisis.

Energiser Batteries:

You are advised to keep energiser batteries in your emergency kit. They have a shelf-life of ten years and are easily available.

Blankets and extra clothes:

You can also keep blankets and some extra clothes with you in your emergency kit during a crisis. They can help you in rains, snowfall and floods

The Disaster Management Act of 2005 (DMA 2005) is an act passed by the government of India for the ‘efficient management of disasters and other matters connected to it. It came into the news with the onset of COVID-19 and pan-India lockdown that followed. The lockdown was imposed under the Disaster Management Act 2005. Hence, aspirants should know important facts about DMA 2005 for UPSC.

Containing 11 chapters and 79 sections, the act received the assent of the President of India on 23 December 2005.

This article will give further details about the Disaster Management Act within the context of the Civil Service Examination.

Looking forward to applying for the upcoming IAS Exam??

Start your preparation now with the UPSC Previous

Year Question Papers. Also, refer to the following

links:

- **Static GK**
- **Comprehensive News Analysis**
- **Gist of Yojana**
- **Analysis of Press Information Bureau (PIB) Review**
- **Disaster Management Questions for UPSC Mains GS 3**
- **Topic-Wise GS 3 Questions of UPSC Mains**
- **NCERT Notes For UPSC Exam Preparation**

Features of the Disaster Management Act 2005?

The following governing bodies are established by DMA 2005.

1. National Disaster Management Authority (NDMA): The National Disaster Management Authority is headed by the Prime Minister of India as the chairperson and will have no more than nine members including a Vice-Chairperson. All the members will have a tenure of five years.

The main responsibility of the NDMA is to lay down the policies, plans and guidelines for disaster management to ensure an effective response in the event of any disaster.

2. National Executive Committee: The DMA empowers the Central Government to create a National Executive Committee (NEC) to assist the National Disaster Management Authority. The NEC consists of Secretary level officers of the government in the home, health, power, finance and agricultural ministries. The NEC is responsible for the preparation of the National Disaster Management Plan for the whole country and to ensure that it is “reviewed and updated annually”.

3. State Disaster Management Authority: The State Disaster Management Authority (SDMA) is responsible for drawing the disaster plan for its respective state. It consists of the Chief Minister who is the chairperson and 8 members appointed by the Chief Minister.

The SDMA is mandated under section 28 to ensure that all the departments of the State prepare disaster management plans as prescribed by the National and State Authorities.

4. District Disaster Management Authority: The Chairperson of District Disaster Management Authority (DDMA) will be the Collector or District Magistrate or Deputy Commissioner of the district.

To know what role the National Disaster Management Plan (NDMP) plays in disaster mitigation in India, visit the linked article

5. National Disaster Response Force (NDRF): The [National Disaster Response Force](#) is tasked with responding to a threatening disaster or a situation similar to it. The NDRF is led by a Director-General appointed by the Central Government. The NDRF has played a major role in rescuing people from many disaster-related events in the past such as the Kashmir floods of 2014 and the Kerala floods of 2018

Related Links	
How to Prepare for Internal Security and Disaster Management for IAS Mains	National Urban Health Mission (NUHM)
National Rural Health Mission (NRHM)	Cyclone Disaster Management in India
UN-HABITAT	Disaster Risk Index

What has been the progress made by DMA 2005?

The Disaster Management Act is based on the principle belief that mitigation of disaster-related losses is efficient than expenditure on relief and rehabilitation. The drawing up planes for strategic partnerships and course of actions to counter disasters of various degrees the act has made significant inroads in the following

- Detailed directions to guide disaster management efforts
- Capacity development in all spheres
- Consolidation of past initiatives and best practices
- Co-operation with agencies at national and international levels.

Disaster Management Act 2005 –

[Download PDF Here](#)

Criticism of the Disaster Management Act

Even though the DMA has filled crucial gaps regarding Disaster Management in India it still comes with its fair share of criticism. One of its drawbacks is the absence of a provision for the declaration of 'disaster-prone zones'. The states can play a more active role when such provisions are made as this classification can help in

mitigating the damages that will be caused

The Act implies that disasters are a sudden occurrence, when in fact they can be progressive in nature as well. For example, epidemics can be considered as disasters despite conventional definition as it does take thousands of lives in its way. Epidemics of dengue and tuberculosis cause a lot of havoc yet no effective mechanism is in place to combat it.

New disaster management guidelines are underway and one can only hope it incorporates provisions to overcome dysfunctions of the current authorities and not oversee yet again the valuable role that the civil society, private enterprises and NGOs can play towards building a safer India.

Ways To Reduce Environmental Pollution

Protection of our environment is one of our major responsibilities and a natural way of caring for self and for our future generations. There are several factors that would help reduce the impact of our consumption habits. Beneath are some of the practical ways that can be implemented in our daily life to reduce pollution.

Choosing a Transportation Facility

Avoid using a car for short-distance travel, instead, you can make use of a bicycle which will be beneficial in terms of health as well as in the [reduction of air pollution](#).

Food Choices

As transporting the food across various parts of the country would lead to consumption of considerable fuel, we can minimize the consumption of excessive fuel by choosing food products that have been grown locally and naturally using viable methods. Hence reducing air pollution.

Energy choices

Ensure that you switch off the lights and other electrical appliances when you are not in the room. Unplugging them when not in use would also help to save energy. Use energy-efficient light bulbs.

Usage of Chemicals

Make use of eco-friendly chemicals because these are what we use for washing utensils, cars and homes get washed down into the sewage system that would, in turn, get collected as groundwater.

Avoid Flushing your Medication

Medicines with high dosage when end up in the sanitation system, are very difficult to isolate from the water system and would cause an adverse effect on people who would consume this water.

Conservation of Water

Avoid excess unwanted usage of water. Some of the simple ways to prevent wastage of water include, to make use of water-saving apparatus, fixing leakage of taps and avoid washing utensils with running water.

How to Create Awareness?

There are several ways that you could educate people on environmental pollution. Do some research online and get to know about the causes of pollution in your area. Share with many people as much as possible so that they are aware of the severity of pollution and the ways to prevent it. One can also create awareness by creating an environmental group.

Emergency essentials kits can help you respond to natural disasters or other serious situations. Prepare for the unexpected by putting together a survival kit that could be useful if you needed to evacuate your home. Pack enough supplies to last three days, and keep your emergency essentials handy. Make sure your family members know where to find the kit. Consider keeping basic emergency essentials in your car as well.

A basic emergency essentials kit includes:

- Small, waterproof flashlight or headlamp and extra batteries
- Waterproof matches
- Water, 1 gallon a person for each day
- Food that won't spoil, including baby food if needed
- Manual can opener for food
- Pet food and supplies, such as a leash, if needed
- Small notepad and waterproof writing instrument
- Blanket
- Cellphone with solar charger
- Battery-powered or hand-cranked radio and a weather radio with tone alert and extra batteries for both
- Insect repellent
- Whistle
- First-aid kit
- Dust mask
- Plastic sheeting and duct tape for improvised shelter
- Wrench or pliers to turn off utilities
- Medicine, a week's supply
- Extra medical supplies or equipment, as needed
- Soap, toothbrush, feminine supplies and other personal care items
- Moist towelettes, garbage bags and plastic ties for personal sanitation
- Emergency health information for you and your family
- Phone numbers for professional emergency contacts, such as your family doctor and pediatrician
- Phone numbers for a personal emergency contact, such as a friend or a family member you've asked to serve in this role
- Copy of insurance cards
- Cash or traveler's checks and change
- Maps of the area
- An extra set of car keys and house keys

Crisis management vs risk management

Posted By Terms Compared Staff | Sep 8, 2019 | Management |

An organization is bound to encounter different issues during its operations. Some of these issues can be foreseen and organizations are able to account for them during their [planning](#) stages. However, a few of the events that occur are not predictable and may be experienced by the organizations without any prior warning. Risk [management](#) and [crisis management](#) are the two processes used by organizations to deal with such threats.

Definitions and explanations

Crisis management

A crisis refers to an unforeseen event that organizations face at any time. Such an event may be capable of causing a significant degree of damage to the organization in terms of profits, [market](#) position, public image, employee [turnover](#), etc. An organization may face crisis that arise due to factors related to the [external environment](#), or it may emerge from within the organization. Some of the examples of crisis faced by organizations are:

- Sudden resignation or demise of the [CEO](#) or board members of an organization
- Fraudulent activity within the organization
- Fire incident
- Reports of sexual abuse within the organization
- Acts of terrorism
- Natural calamities
- Technical problems like failure of equipment or machinery

The impact of such unexpected events is determined by the ways in which they are dealt with by the organization, which is what crisis management is all about. When organizations show a rapid response to such events and immediately start taking actions to restore the operations of the organization, the impact of such events is decreased. However, when an organization is slow in reacting and is confused about what actions to take, then it may incur a significant amount of damage.

Crisis management includes all the processes that an organization has in place to face any unforeseen event that takes place which may have an adverse impact on the operations and outcomes of an organization. It comprises of different steps and actions that are in place within the organization that enable the management and the employees to assess and comprehend all the factors that gave rise to this uncertain situation within the organization.

Risk management

A risk refers to a potential event or activity that may take place in organization, which would cause a detrimental effect on the outcomes, market status, revenues, etc. of the **firm**. Organizations face two kinds of risks:

Strategic risk:

- not being sufficiently prepared to **adopt** the latest trends in the market
- not adhering to the strategic objectives of the organization

Operational risk:

- Not handling a business unit properly
- Exceeding **budget** on **development** projects

Risk management is an important area of every organization as it is involved in the identification of potential risks for the organization and the development of measures in advance to deal with these risks. It is involved in assessing the possibility of the threats actually materializing and the magnitude of their impact (if they do take place). This would enable the organizations to face minimal damage when the event actually takes place. This approach is proactive in nature as the contingency measures are already in place to face the potential threats that the organization may encounter and how they can be addressed.

Difference between crisis management and risk management

The difference between crisis management and risk management is explained below:

1. Meaning

Crisis management refers to the processes carried out by an organization to deal with any unforeseen event that may have a negative impact on the operations of that organization. In

contrast, risk management involves all those processes that are carried out to identify any potential risks that the organization may encounter in the future and the steps that could be taken to mitigate those risks and minimize the impact of those events on the organization.

2. Type of process

Crisis management is a reactive process, that is, it is carried out as a reaction to an adverse event that has already occurred within the organization. On the other hand, risk management is a proactive approach that is carried out to handle any events that may occur within the organization in the future.

3. Purpose

The objective of crisis management is to alleviate the tensions that may arise within an organization because of the crisis that it is facing. On the other hand, the **goal** of risk management is to identify, understand and plan for dealing with the risks that an organization faces.

4. Kinds of events

Crisis management pertains to those events that are not known and unforeseen. The organization is not aware of when and how they will surface. On the hand, risk management is carried out on potential events that the organization may face in the future.

crust and cause the shaking that we feel ³.

There are several causes of earthquakes. Some of them are:

- Volcanic Eruptions
- Tectonic Movements
- Geological Faults
- Man Made ⁴

I hope this helps!

Learn more:

1 of 30

[1. britannica.com](#) [2. britannica.com](#) [3. usgs.gov](#) +2 more

Analyse the consequences of an earthquake with a real case scenario.

✓ Searching for: **real case scenario earthquake consequences**

✓ Generating answers for you...

The effects of an earthquake can be terrible and devastating. Many buildings, hospitals, schools, etc are destroyed due to it. A lot of people get killed and injured. Many people lose their money and property. It affects the mental health and emotional health of people ¹. The environmental effects of it include surface faulting, tectonic uplift and subsidence, tsunamis, soil liquefaction, ground resonance, landslides and ground failure, either directly linked to a quake source or provoked by the ground shaking ¹ ².

One real case scenario is the Haiti earthquake that occurred on August 14th 2021. The magnitude 7.2 earthquake struck Haiti in the Caribbean. The plate boundaries around Haiti are complex. The North American Plate lies to the north of the island while the Caribbean Plate lies to the south ³.

I hope this helps!

Learn more:

2 of 30

[1. toppr.com](#) [2. usgs.gov](#) [3. bbc.co.uk](#) +3 more

Define disaster management. Explain the need for effective disaster management strategies

✓ Searching for: **disaster management definition and need for effective disaster management strategies**

✓ Generating answers for you...



Disaster management is a process of effectively preparing for and responding to disasters. It involves strategically organizing resources to lessen the harm that disasters cause. Disaster management plans are multi-layered and are planned to address issues such as floods, hurricanes, fires, mass failure of utilities, rapid spread of disease and droughts. The term "disaster management" is used to cover all the aspects involved in planning for and responding to disasters ¹ ².

Effective disaster management strategies can help reduce the impact of disasters on people's lives and livelihoods. It can help save lives and reduce the damage caused by disasters. Effective disaster management strategies include:

- Preparedness
- Response
- Recovery ³

I hope this helps!

Learn more:

3 of 30

[1. publichealth.tulane.edu](#) [2. examination.org](#) +2 more



What is the role of government in disaster management?

How can we prepare for a natural disaster?

Can you give me an example of effective disaster management strategies?

Ask me anything...



10.2: Ozone Depletion

10.1: Atmospheric Pollution

Air pollution occurs in many forms but can generally be thought of as gaseous and particulate contaminants that are present in the earth's atmosphere. Chemicals discharged into the air that have a direct impact on the environment are called primary pollutants. These primary pollutants sometimes react with other chemicals in the air to produce secondary pollutants.

10.3: Acid Rain

Acid rain is a term referring to a mixture of wet and dry deposition (deposited material) from the atmosphere containing higher than normal amounts of nitric and sulfuric acids. The precursors, or chemical forerunners, of acid rain formation result from both natural sources, such as volcanoes and decaying vegetation, and man-made sources, primarily emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) resulting from fossil fuel combustion.

The ozone depletion process begins when CFCs (chlorofluorocarbons) and other ozone-depleting substances (ODS) are emitted into the atmosphere. CFC molecules are extremely stable, and they do not dissolve in rain. After a period of several years, ODS molecules reach the stratosphere, about 10 kilometers above the Earth's surface. CFCs were used by industry as refrigerants, degreasing solvents, and propellants.

10.4: Climate Change

Earth's temperature depends on the balance between energy entering and leaving the planet. When incoming energy from the sun is absorbed, Earth warms. When the sun's energy is reflected back into space, Earth avoids warming. When energy is released from Earth into space, the planet cools. Many factors, both natural and human, can cause changes in Earth's energy balance.



Write a haiku about crewdines in outer space in the voice of a pirate

Let's learn together. Bing is powered by AI that can understand and generate text and images, so surprises and mistakes are possible.

Make sure to check the facts, and [share feedback](#) so we can learn and improve!

[Terms](#) | [Privacy](#)

discuss the role of media in a global pandemic like covid-19/during emergency situations/during disasters

✓ Searching for: **role of media in global pandemic**

✓ Generating answers for you...



The media plays a crucial role in global pandemics like COVID-19. It is responsible for providing accurate and timely information to the public, which can help prevent the spread of the disease. The media can also help dispel myths and misinformation about the disease, which can lead to panic and confusion.

During emergency situations or disasters, the media can help provide critical information to people who are affected by the situation. This can include information about evacuation orders, shelter locations, and emergency services.

In addition to providing information, the media can also play a role in shaping public opinion about the pandemic or disaster. This can include highlighting the efforts of first responders and healthcare workers, as well as providing a platform for people to share their experiences.

Overall, the media has an important role to play in global pandemics and emergency situations. By providing accurate information and shaping public opinion, it can help prevent the spread of disease and ensure that people have access to the resources they need.

Learn more:

1 of 30

[1. cureus.com](#) [2. weforum.org](#) [+3 more](#)

Can you give me an example of a pandemic that happened in history and how it was covered by the media?

✓ Searching for: **pandemics in history covered by media**

✓ Generating answers for you...

One example of a pandemic that was covered by the media is the Spanish flu pandemic of 1918-1919. The pandemic was caused by the H1N1 influenza virus and is estimated to have infected one-third of the world's population at the time ¹. The media played an important role in covering the pandemic and providing information to the public about how to prevent the spread of the disease ². Newspapers published articles about the pandemic and provided updates on the number of cases and deaths ². The media also helped dispel myths and misinformation about the disease, which helped prevent panic and confusion ².

Overall, the media has played an important role in covering pandemics throughout history. By providing accurate information and shaping public opinion, it can help prevent the spread of disease and ensure that people have access to the resources they need.

Learn more:

2 of 30

[1. en.wikipedia.org](#) [2. thereader.mitpress.mit.edu](#) [+5 more](#)

(?) What were some of the symptoms of Spanish flu? | How did people prevent the spread of Spanish flu? | Did they have a vaccine for Spanish Flu?

Ask me anything...



Home > IAS Preparation > Man Made Hazards



Man-made Hazards: Oil Spills, Terrorism, Wars, Nuclear Accidents

Last updated on Apr 26, 2023

Download As PDF



Overview Test Series

Disasters have been a part of human life since the beginning of time. Man-made hazards and catastrophes are events that reduce quality of life, health issues, and even fatalities. Some natural catastrophes have become more frequent and intense as a result of human influences.

- Man-made disasters can be intentional, by accident or due to improper management (negligence) of man made systems.
- Avoiding man-made hazards requires caution from authorities and proper disaster management plans at a local level. When members of human communities intend to inflict damage on fellow members, strict surveillance mechanisms help to avert danger.
- A hazard exists only when it affects a person exposed to it. But not all disasters come with an alarm bell.

Learn more about man-made hazards to prepare for competitive exams.

Also, read more about [Natural hazards and Disasters](#), here.

Definition of Man-made Hazards

- Man-made hazards are **disruptions of a massive scale** over a short or long period of time, caused by **human action or inaction**.
- These disasters cause economic damage, loss of life, health emergencies, etc.

Sign Up Now & **Get Free Access to All**

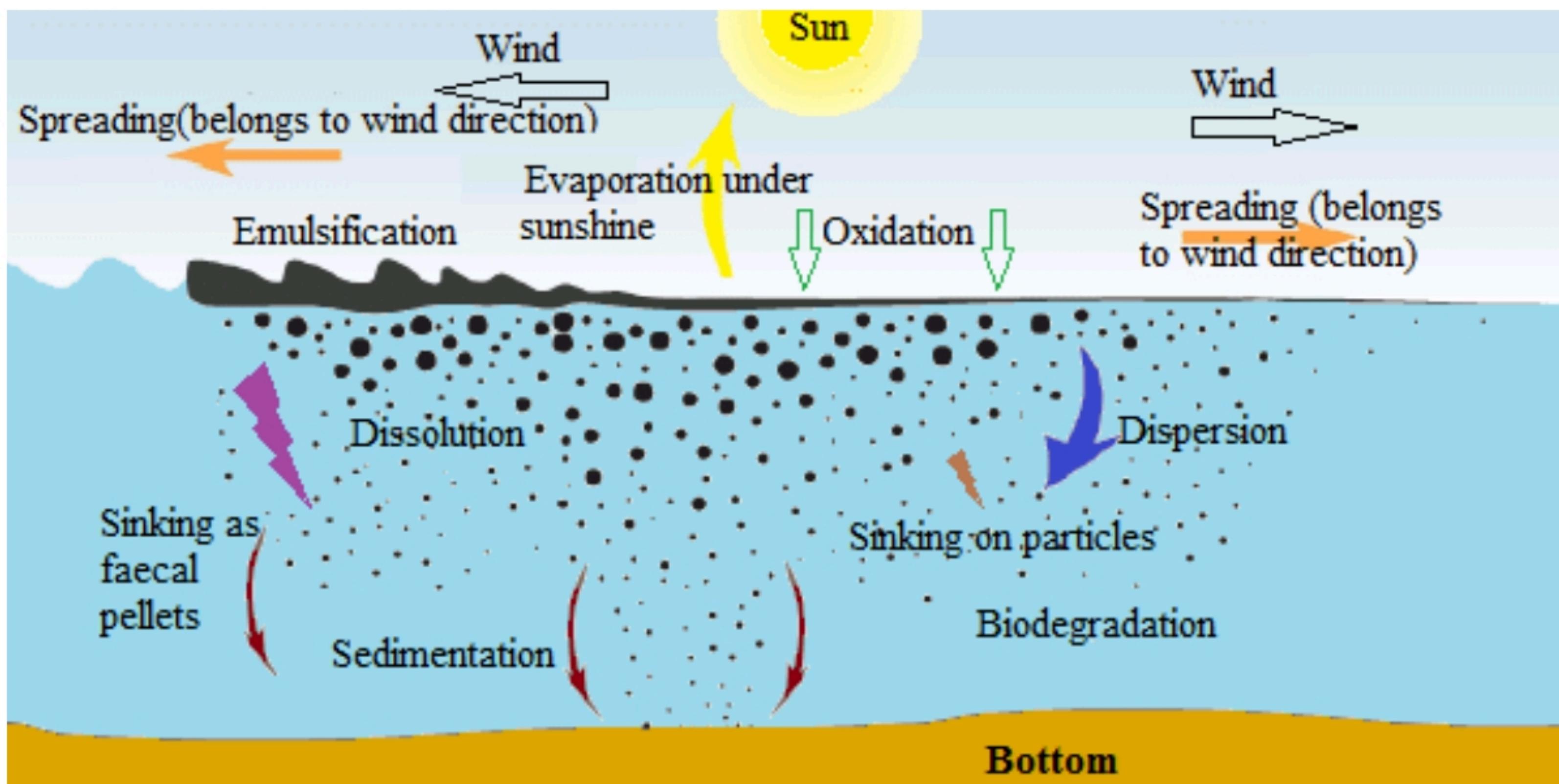
Get Unlimited Access to Test Series for 750+ Exams and much more.

[Know More](#)

₹14/month

[Buy Testbook Pass](#)

Oil and Chemical Spill



- People, animals, land and the marine ecosystem are all affected by an oil and chemical spill, making it one of the most destructive environmental man-made hazards that may occur.
- Such accidental spills harm and pollute vital resources in the food supply system, among other things.
- Explosives, flammable and combustible materials, poisons, and radioactive materials are examples of hazardous materials. Accidents during transportation and chemical leakages at industrial units or refineries are the most common sources of these releases.
- Most industrial accidents may be prevented by implementing and following adequate safety standards and processes. Accidents generate harmful gases and poisonous chemicals that damage living forms in neighbouring regions.
- According to estimates, Iraqi forces fled from Kuwait in 1991 and broke valves of oil wells and pipelines, causing the **Gulf War oil leak** releasing 8 million barrels of oil into the Persian gulf. A five-inch-thick oil slick covered 101 miles by 42 miles at its peak.
- The **Bhopal Gas Tragedy** of 1984 was the world's worst chemical (industrial) catastrophe in 1984. Methyl isocyanate, a poisonous chemical, was accidentally released, resulting in the death of nearly 2500 individuals.

Sign Up Now & **Get Free Access to All**

- Daily Live Classes
- 250+ Test series
- Study Material & PDF
- Quizzes With Detailed Analytics
- + More Benefits
- Get Free Access Now



229.4k Users

UPSC Civil Services Prelims 2023 Test Series

345 Total Tests | 5 Free Tests

English,Hindi

- 26 Full Tests
- 5 Ultimate Revision Set
- 48 Previous Year Papers
- +266 more tests

[View Test Series](#)

125.0k Users

CA 2022 - UPSC IAS & State PSC Current Affairs

137 Total Tests | 1 Free Tests

English,Hindi

- 24 Monthly 2022
- 85 Topic Wise 2022
- 28 Yearly Roundup 2021

[View Test Series](#)

59.0k Users

UPSC & State PSC Geography Test Series

72 Total Tests | 2 Free Tests

English,Hindi + 7 More

- 36 State PSC Level Test
- 36 UPSC Level Tests

[View Test Series](#)[View More](#)

Terrorism

- To intimidate, coerce, or demand ransom, terrorists employ force or violence against people or property in violation of criminal laws.
- In order to convince individuals that their government is helpless to combat terrorism, terrorists often use threats to generate fear among the population.
- From terrorist threats to assassinations to kidnappings and hijackings, bomb scares and bombings, and cyber warfare to the use of chemical, biological and nuclear weapons, terrorism may take many forms.
- The **9/11 terrorist attacks** that took place on the Twin Towers (New York) in USA was the turning point in counter terrorism policy. The United States took a lead in suppressing the growth of terrorist networks in Iraq and Afghanistan.
- In November 2008, Mumbai, Maharashtra, India, was the scene of numerous terrorist operations. Lashkar-e-Taiba, a Pakistani terrorist group, carried out the assaults in Mumbai. A number of landmarks in Mumbai's south were attacked by terrorists, including the Chhatrapati Shivaji train station and Leopold Café, two hospitals, and a theatre.

Read about the [10 worst natural disasters of all time here](#).

Wars

Sign Up Now & [**Get Free Access to All**](#)

- Daily Live Classes
- 250+ Test series
- Study Material & PDF
- Quizzes With Detailed Analytics
- + More Benefits

[Get Free Access Now](#)

- **Nuclear bombing of Hiroshima and Nagasaki on 6th and 9th August of 1945** wreaked unforeseen damage on the cities.
- The form and platform for wars have shifted from being geographical-physical conflicts to cyberspace. Governments and extra state actors have the ability to disrupt normal functioning of lives by attacking important facilities like power plants, refineries etc.
- The Kargil War of 1999 was fought between India and Pakistan along the Line of Control. Hundreds of soldiers from both sides succumbed to death.

Learn about the [important wars and battles in Indian history](#) here.

Nuclear Accidents

- The International Atomic Energy Agency (IAEA) defines a nuclear accident as an incident that has resulted in severe implications for the people, the environment, or the nuclear plant. Radioactive fallout and reactor core melt are potentially high damage events.
- The **Chernobyl disaster in 1986** and the **Fukushima Daiichi accident in 2011** highlighted the consequences of any mishap in nuclear power plants.

Human Accelerated Hazards

- Environmental issues like pollution, climate change, ozone layer depletion are intensified due to human intervention.
- Landslides and meteorological phenomena like tornadoes, storms are classified under natural disasters. But several factors like construction of roads, destruction of green cover etc can accelerate these natural disasters. More than 5000 lost their lives in the **Uttarakhand floods of 2013**.

So, this is all about Man-made Hazards. Practice mock tests prepared by subject experts for cracking competitive exams on the [Testbook App](#).

More Articles for IAS Preparation

[Human Impact On The Environment](#)

[Ecology and Ecosystem](#)

[Millenium Development](#)

[Rio Summit](#)

Sign Up Now & [**Get Free Access to All**](#)

- Daily Live Classes
- 250+ Test series
- Study Material & PDF
- Quizzes With Detailed Analytics
- + More Benefits

Get Free Access Now

There is increasing realisation, as also explained earlier, of a cause-effect relation between disasters and development in that development has not factored environmental concerns sufficiently in mainstream policy and has been predominantly productivity centred. For example, as brought out in the India Disasters Report, 2005, (Parasuraman and Unnikrishnan, 2005) excessive use of chemical fertilisers has led to salinisation of water in Punjab, water-logging and groundwater contamination. Elsewhere, large dams have displaced communities, heightened seismic risk, such as in Koyna, Maharashtra. Large scale felling of trees has led to desertification of large stretches in Gujarat and Rajasthan and environmental degradation in upstream areas of Uttar Pradesh and Bihar.

The World Disasters Report, 2002 categorically states that International development targets set for the year 2015, such as reducing world poverty and hunger by one half, will not be reached unless the heavy toll of disasters on the poor is reduced through effective measures.

In its tenth year, the report published by the International Federation of Red Cross and Red Crescent Societies, calls for disaster risk reduction targets to be added to the international development goals for 2015 and beyond. These targets include reducing by one half, the number of people killed and affected by disasters and increasing the number of governments with dedicated plans and resources for risk reduction programmes (IRCRS, World Disasters Report, 2002).

Logically, since/if disasters have human causation, their impact could be minimised by planned human intervention. These efforts comprise immediate control of the situation in the aftermath of a disaster, implying *disaster response*, long-term planning with a view to curtailing its frequency and impact and curbing its disaster potential, hence losses when onset, implying *mitigation*, and *preparedness*, which is explained/understood as a state of readiness on the part of administration to swing into action.

2.2 STAGES IN DISASTER MANAGEMNET

Disaster Management efforts are geared towards *disaster risk management*. Disaster Risk Management “implies the systematic process of using administrative decisions, organisation, operational skills, and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impact of natural hazards and related environmental and technological disasters. These comprise all forms all activities including structural and non- structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects to hazards” (UNISDR, 2004).

There are three key stages of activities in disaster management:

- 1) **Before a disaster:** to reduce the potential for human, material, or environmental losses caused by hazards and to ensure that these losses are minimised when disaster strikes;
- 2) **During a disaster:** to ensure that the needs and provisions of victims are met to alleviate and minimise suffering; and
- 3) **After a disaster:** to achieve rapid and durable recovery which does not reproduce the original vulnerable conditions.

Common perception of disaster management, as explained earlier, is limited to emergency relief and post- disaster rehabilitation. This is so because these two elements are by far

the strongest in terms of high profile visibility, political support and funding provision. Instead of allocating funds before an event to reduce future disasters, action normally only takes place after an event has occurred. The situation is similar to that of preventive health care where curative medicine is relatively well funded whilst preventive medicine is not.

The focus on emergency relief also depends on *risk perception*; that is, whether there is belief that disaster could be avoided. If disasters were believed to be of such a scale that it is believed, nothing could be done to reduce either the phenomenon or the risk involved, and risk mitigation would not be pressed for/attempted. However, once belief develops that disaster losses are exacerbated by human agency, and could be curbed thereby, disaster risk mitigation would be attempted.

2.3 THE DISASTER CYCLE

The different phases of disaster management are represented in the disaster cycle diagram overleaf. The Disaster Cycle consists of three stages:

I) The Disaster Event

This refers to the real-time event of a hazard occurring and affecting the ‘elements at risk’. The duration of the event will depend on the type of threat, for example, ground shaking may only occur for a few seconds during an earthquake while flooding may take place over a longer period of time. Disasters have tremendous modifying impact on the physical landscape. Within a few minutes, an entire region is reduced to rubble in the event of an earthquake. The recent Tsunami has permanently altered the physiography of affected coastal areas in Sri Lanka, Andaman and Nicobar islands. The impact leads to loss of life and property in affected areas; losses being directly correlated to the vulnerability of the region, physical and socio-economic. Physically weak structures, especially in illegal/informal settlements give way easily and cause large-scale losses. Vulnerability is also socio-economic. Weaker sections of society, viz. women, children, aged and handicapped, mentally infirm, etc., suffer a lot more than their stronger counterparts. Studies have also unearthed positive correlation between poverty and vulnerability. The poor inhabit the most hazardous physical areas because they are easier to procure and offer added advantages, like proximity to sea for fishermen or fertile soil for farmers near flood prone areas etc., that makes them prone to losses, both of assets and life. The poor also lack the resilience to recover from shock in the aftermath of a disaster. For example, fishermen loose their boats, street side vendors, the homeless, orphans, widows and beggars fall easy prey to epidemics and insidious activities of unsocial elements like thieves, robbers, pimps, etc.

This brings to light the need for multi-faceted response to disasters, which takes account of all social political and economic ramifications. Issues to be addressed range from physical, relating to damaged structures and physical vulnerability of areas and infrastructure to social and economic vulnerability of weaker sections that suffer more relative to other, better placed. The following diagram is a vivid description of the disaster cycle.

The Disaster Cycle



II) Disaster Response

A Disaster is a cataclysmic event that has severe modifying impact. Consequences are both physical and social/ human. Communication is disrupted; infrastructure is affected adversely, many buildings giving way completely, critical facilities are disturbed, economic losses accrue, loss of employment, ranging from temporary to permanent occurs, development is rendered a severe set-back, law and order situation worsens, social fabric is disturbed, in that parochial tendencies are seen to come forth, such as on caste, communal, linguistic *et al* lines, and most importantly, people lose lives. Disaster Response has to tackle all aforesaid challenges. Disaster response entails restoring physical facilities, rehabilitation of affected populations, restoration of lost livelihoods and reconstruction efforts to restore the infrastructure lost or damaged. There are inherent important lessons to be learnt from disaster response. Retrospectively, it brings to light flaws in efforts pertaining to policy and planning with respect to location and type of infrastructure and social schemes to improve the social positioning of the under privileged, particularly with respect to access to resources of the underprivileged. Disaster aftermath is evaluation time for the administrative set up in that disaster response exposes system weaknesses. Disaster is the ultimate test of administrative efficiency, in the sense of positive impact on the environment, preparedness, procedural simplicity, logistics, speed and expertise. There are inherent important lessons to be learnt for the future. Strong infrastructure and service support base is the fundamental and the most important requirement, which is often found wanting in poor third world countries. Disaster event simply exacerbates the losses that accrue almost every time/ unabated due to poor health and hygiene arrangements in vulnerable pockets, inefficient municipal administration, top-down orientation in policy making and administration, poor institutionalisation of development planning and administration at the local level, implementation bottlenecks, unchecked poverty, unresponsive administration, poor informational and logistical arrangements *et al.*

Such critical evaluation as also articulation of displeasure on the part of the people through the electoral mechanism is not as effective in third world countries where elections are fought less on ‘rational’ criterion and more on ascriptive ‘traditional’/ ‘charismatic’,

criteria, which shifts attention/ focus away from performance to *rhetoric* which are designed to excite inherent social differentiations based on caste, language or community, etc., which is political demagoguery. Disaster event brings to the fore such inherent failings of a system; hence is explained the reliance on outside aid which is often found misdirected and misused due to lack of familiarity with local circumstances in recipient countries and rampant corruption in disbursements due to poor administrative infrastructure. Since Risk Perception of disasters is low in developing countries, pressure for policy in this regard is not strong enough. Hence, pressure for disaster management policy/planning in developing countries is articulated externally, that is, on the part of external/ international bodies like the International Red Cross and Red Crescent Societies, and the UNDP, the ISDR etc., based in the United Nations which may not always be guided by local concerns.

Hence, proactive planning for disaster response on the part of governments, especially in developing countries with regard to administrative reforms is imperative to protect development and/by lessening the disaster potential of a catastrophe, natural or man-made or otherwise by way of policy interventions to ensure:

- Better institutional preparedness;
- Countering contrary pulls such as lack of social cohesion owing to irrational differentiations that effectively impede response, in the sense of self- help and ‘communitarianism’; and
- Long- term mitigation policy to counter vulnerabilities, structural and non- structural by enabling legal provisions and honest implementation of the same.

Significance of Response

Response has immediate mitigation impact. Disaster losses can be minimised to a large extent by effective response on the part of government and civil society. Sheer impact of disasters on life and property endorses the significance of response. Globally, natural disasters account for nearly 80 per cent of all disaster-affected people. The insurance industry estimates that natural disasters represent 85 per cent of insured catastrophe losses globally (World Disasters Report, 1997).

World Disasters Report (2003) focuses on *ethics* in humanitarian aid. It looks at how humanitarian agencies and governments can best help disaster-affected communities to recover, to become stronger and more resilient. It addresses issues like how the gaps between short-term relief and longer-term recovery can be bridged. There is growing concern over politicisation of disaster relief. “Millions of the world’s most vulnerable remain beyond the reach of humanitarian assistance and protection. Saving lives alone is not sufficient. Respecting people’s dignity and livelihoods is equally important. Humanitarian organisations bear two responsibilities. They must operationalise humanitarian principles by developing field indicators to put principles into practice and disseminate good practice in humanitarian judgement.” Acting in tandem with local communities, particularly the vulnerable segments, this could be done.

There is also criticism of over-reliance on high-profile aid operations to save lives when long-term investment in disaster mitigation at the local level has proven to be much more effective. No international aid effort was necessary when the worst hurricane since 1944 hit Cuba in 2001 but only five people died. Local mechanisms were in place to evacuate 700,000 people from Havana and other threatened areas. Of the 53,000 people rescued

- Vulnerability Analysis
- Risk Assessment
- Vulnerability Reduction/mitigation strategies (structural and non- structural)
- Integration of disaster risk reduction activities in all development activities
- Disaster-resistant buildings and infrastructure
- Awareness among the community
- Preventing habitation in risk zones.

2) Short-term Preparedness

This protective process embraces measures, which enable governments, communities and individuals to respond rapidly to disaster situations to cope with them effectively. Preparedness includes the formulation of viable emergency plans, the development of warning systems, maintenance of inventories and training of personnel. It may also embrace search and rescue measures as well as evacuation plans for areas that may be ‘at risk’ from a recurring disaster.

Preparedness, therefore, encompasses those measures that are taken before a disaster event, which are aimed at minimising loss of life, disruption of critical services, and damage when the disaster occurs. All preparedness planning needs to be supported by appropriate legislation specifying clear allocation of responsibilities and budgetary provisions for specific activities.

Some common preparedness measures are:

- Forecasting and warning systems for different disasters
- Emergency management plans for responsible agencies (for monitoring, alert and evacuation, immediate disaster assistance, deployment of search and rescue teams and distribution of relief material, etc.)
- Community awareness and education
- Preparation of disaster management plans for the community
- Mock drills, training and rehearsals.

2.4 SHIFT TO MITIGATION AND PREPAREDNESS PLANNING IN INDIA

The DMTP (Coburn *et al*, 1994) defines Disaster Mitigation as “a collective term used to encompass all activities undertaken in anticipation of the occurrence of a potentially disastrous event, including preparedness and long-term risk reduction measures.” Disaster Mitigation measures entail planning and implementation of risk reduction measures based on vulnerability and risk assessments and political decisions based on acceptable risk and the level of risk perception in society.

The Yokohama Message

Alarmed at increasing disaster losses all round the world, world leaders assembled at

Yokohama in May 1994, to meet the challenge collectively, since environment is an international concern. The message was to factor disaster mitigation in development policy. It marked a paradigm shift, since disaster management had been conceived more in terms of response, post-event, not as something, which could be tackled in initial stages with policy intervention. The Yokohama principles (1994) for risk reduction are as follows:

- 1) Risk assessment is a required step for the adoption of adequate and successful disaster reduction policies and measures.
- 2) Disaster prevention and preparedness are of primary importance in reducing the need for disaster relief.
- 3) Disaster prevention and preparedness should be considered integral aspects of development policy and planning at national, regional, bilateral, multilateral and international levels.
- 4) The development and strengthening of capacities to prevent, reduce and mitigate disasters is a top priority area to be addressed so as to provide a strong basis for follow-up activities to IDNDR (International Decade for Natural Disaster Reduction).
- 5) Early warnings of impending disasters and their effective dissemination are key factors in successful disaster prevention and preparedness.
- 6) Preventive measures are most effective when they involve participation at all levels from the local community through the national government to the regional and international level.
- 7) Vulnerability can be reduced by the application of proper design and patterns of development focused on target groups by appropriate education and training of the whole community.
- 8) The international community accepts the need to share the necessary technology to prevent, reduce and mitigate disasters.
- 9) Environmental protection as a component of sustainable development consistent with poverty alleviation is imperative in the prevention and mitigation of natural disasters.
- 10) Each country bears the primary responsibility for protecting its people, infrastructure, and other national assets from the impact of natural disasters. The international community should demonstrate strong political determination required to make efficient use of existing resources, including financial, scientific and technological means in the field of natural disaster reduction, bearing in mind the needs of the developing countries, particularly the least developed countries.

Post-Yokohama, there is an increasing awareness of ‘factoring’ disaster mitigation concerns in mainstream development planning, especially at the local level. Disaster Management in India, therefore, has now been imparted a development perspective following realisation of the imminence of such effort to sustain development achieved in /over the years. Traditionally, disaster management had been treated as a contingency expenditure, which could be conveniently classified, non- plan. There is an unfortunate tendency on the part of policy makers to look upon non-plan expenditure as relatively unimportant, when that is a grievous error from a development perspective. A plan item in a particular year would be non-plan in subsequent years, when expenditure has to be incurred on maintenance.

The Different Types Of Meteorological Disasters



During hail storms, large hail stones can cause significant damage to property such as cars.

Disasters caused by extreme weather conditions are referred to as meteorological disasters. Such disasters are usually related to sudden and adverse changes in the weather or weather-forming processes. Extreme heat, excessive rainfall, and strong winds affecting the Earth's atmosphere in a negative manner and causing death or destruction are labeled as meteorological disasters.

Types Of Meteorological Disasters

Blizzards

A severe snowstorm with a strong and sustained wind speed of more than 35 mph is considered a **blizzard**. Such storms last for several hours and cause great harm to life and property in the area of occurrence. Blizzards are not only caused by falling snow but might also result from strong winds blowing away loose snow on the ground.

The **Great Blizzard of 1888** was one of the **worst blizzards** in recent history. Significant wheat crops were destroyed in the United States during the event.

Hailstorms

A hailstorm is a phenomenon in which ice pellets fall to the ground as a form of solid precipitation. The irregular lumps of ice that fall during such storms are

called **hailstones**. Modern technology makes it possible to detect hail forming thunderstorms using sophisticated meteorological instruments. Hail is highly damaging to property, as well as vegetation and crops. In the absence of proper cover, hailstones of large size can also cause physical harm to people and animals. One of the most damaging hail events occurred in Munich, Germany on July 12, 1984, causing damages worth at least \$2 billion in insurance claims.

Droughts

Significantly lower than normal levels of rainfall in an area over a sustained period of time can lead to unusual dryness of soil. Such soil is unable to support plant life including agricultural crops, resulting in a **drought**. Various other factors like high temperatures, water shortage, and hot winds can also contribute to the severity of drought. Famines triggered by crop failure are often caused as the after-effects of a drought. Humanitarian crises and mass migrations often result from prolonged droughts.

Heat Waves

A **heat wave** occurs when the temperature of an area becomes excessively hot and exceeds normal seasonal limits. Hot weather during a heat wave might also be accompanied by high levels of humidity. Severe heat waves can result in massive crop failure, power outages across large areas, and even deaths. One of the **worst heat waves** in recent history was the European Heat Wave of 2003.

Tornadoes

Tornadoes are extremely dangerous and violent rotating air columns that move at high speeds across a large area and damage everything in their path. The base of a tornado is always in touch with the Earth's surface, while the top is in contact with a cumulonimbus cloud. A tornado generally appears like a condensation funnel, with the narrow edge touching the Earth. The wind speed of a tornado can vary from less than 117 km/h to greater than 480 km/h.

Cyclonic Storms

A cyclonic storm is a destructive meteorological phenomenon that forms when a large air mass rotates around a central low atmospheric zone. Such storms originate over oceans and usually move towards land where they cause great destruction to life and property. A cyclone can also be referred to as a **hurricane** or **typhoon**, depending on its origin. For example, the term "hurricane" is used to refer to cyclonic storms that arise in the Northeast Pacific and Atlantic Oceans. Storms of a similar nature arising in the Indian and South Pacific Oceans are called "cyclones," while the term typhoon is used to refer to storms originating in the Northwest Pacific Ocean. The 1970 Bhola Cyclone is considered to be the deadliest cyclone ever recorded, striking Bangladesh and causing 500,000 deaths.

Thunderstorms

A thunderstorm is a meteorological phenomenon associated with intense lightning and its acoustic effect, thunder. Such storms can also be called electrical storms or thundershowers. These weather events are usually accompanied by heavy rainfall and strong winds. Occasionally, snow, hail or sleet might also fall during thunderstorms. **Lightning** can kill people, animals, and plants that come in direct contact with the electrical flashes, as well as triggering fires or damaging buildings. The strong winds and heavy precipitation associated with powerful thunderstorms also add to the damaging effects of such weather events. The crash of the LANSA Flight 508 is an example of a thunderstorm-related disaster. The flight crashed in a thunderstorm while en route to Pucallpa from Lima, Peru, resulting in 91 deaths.