

BEING PREPARED – A VITAL PART OF DISASTER MANAGEMENT

India with its vast population and unique geo-physical characteristics is one of the world's most 'disaster-prone' countries. **Natural hazards** such as cyclones, earthquakes, drought, floods or landslides occur in different parts of India in varying intensity. This means that we are all 'vulnerable' in different degrees to disasters caused by these hazards. On the East Coast, cyclones occur frequently. In the interior of the Plateau or in the Himalayas – earthquakes, and in the Ganga-Brahmaputra plain, floods are more common.

Rajasthan or Western Orissa often experience severe drought, as do other areas in South

India. In addition to this, social conditions that govern the way communities live, further affect the extent to which people are affected by the hazard. In order that we protect ourselves from the harmful effects of a disaster, we have to prepare ourselves in advance, to face them better.

The process involving activities that help us to face disasters effectively is commonly known as '**disaster preparedness**'.

INDIA IS DISASTER-PRONE...

- ✓ OVER 55% OF THE LAND AREA IS VULNERABLE TO EARTHQUAKES
- ✓ 12% TO FLOODS
- ✓ 8% TO CYCLONES
- ✓ 70 % OF THE LAND UNDER CULTIVATION IS PRONE TO DROUGHT

When disaster strikes, it affects us directly, and immediately. While the Government,

Important Terms*

- 1. Disaster Management:** the range of activities designed to *mitigate* the effects of disasters and emergency situations and to provide a framework for helping people at-risk to avoid or recover from the impact of the disaster. Managing disasters includes steps to be taken prior to, during, and after the disaster, and involve preparedness, mitigation, response and recovery.
- 2. Disaster-proneness:** the likelihood of a place being affected by a disaster
- 3. Natural Hazard:** A physical event or phenomena which may cause injury or loss of life, damage to property, social and economic disruption or environmental degradation
- 4. Vulnerability:** in simple terms is the potential for loss to an individual, community or place because of a disaster, which is affected by geographical as well as social conditions
- 5. Disaster Preparedness:** The set of activities and precautions that a community collectively takes before a disaster occurs, in order to reduce the impact of a disaster, and to cope with it efficiently.

* All terms are explained in context, to make the student understand important aspects of disaster management. Formal definitions will be attempted in Class 9 & 10

International Agencies such as the United Nations, or Red Cross, and Panchayats in rural areas assist us when faced with a disaster; **the community, however is the first responder.**

We students are an integral part of community, and have an important role to play in being prepared. Hence it is imperative that we prepare ourselves adequately to prevent, face and respond to disasters. History has shown us that where communities have been prepared to face disasters, lesser lives have been lost, less significant damage to the environment has occurred, and property has been better conserved.

People living in an area may be vulnerable to more than one disaster. For instance, a coastal area may face floods and cyclones frequently, while being located in an earthquake zone. Such an area is called a ‘multi-hazard’ zone. Our country is divided into various zones based upon the vulnerability of the area to various disasters. When these zones overlap, we have a multi-hazard zone.

A hazard in simple terms is a ‘potential’ disaster. It is an event that may lead to a disaster. For instance, a flood is a hazard. When it occurs, and if people are not prepared to face it, it may wash away persons, homes, cattle and valuables. Then, the flood becomes a disaster. But if people are evacuated along with valuables to a safe shelter, cattle is herded onto a higher area such as a mound, and houses are built with adequate features to make them flood-resistant, the flood remains a hazard and does not become a disaster.

Natural and Manmade disasters

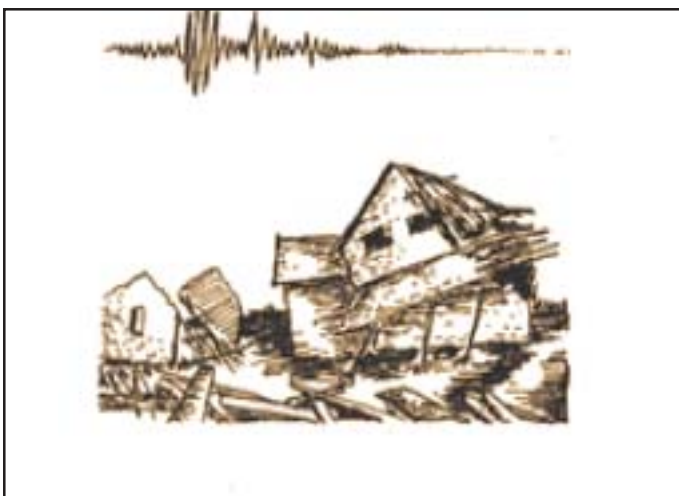
Important Terms*

1. **Community:** People who live together in a village or urban area, who can be identified as a local group with a common way of life
2. **First responders:** The persons or group of people who are immediately affected by a disaster, and are the first to respond and help to cope with it, before government or relief agencies can rush to the area.

The selfless bounty of nature is a gift to mankind. It is an eternal source of sustenance: it gives us air, water and food, and of course a home to stay. For centuries though, Mother Nature has been combining its gifts with its often-inexplicable moods of destruction and fury. These times of turmoil over land and water, or hazards often lead to disasters, with large losses to life, livelihood and property. Disasters are some times referred to as ‘calamities’.

Common hazards faced by us in India are earthquakes, drought, floods, cyclones, landslides, forest fires, a large number of fire accidents, etc.

Earthquakes: The Earth we live on is made up of large plates of land that float over



an ocean of semi molten rock. For thousands of years these plates have been constantly moving and shifting. (65 million years ago such shifting caused the Himalayas.) These movements in the Earth’s crust cause earthquakes, when two plates collide with each other, releasing energy.

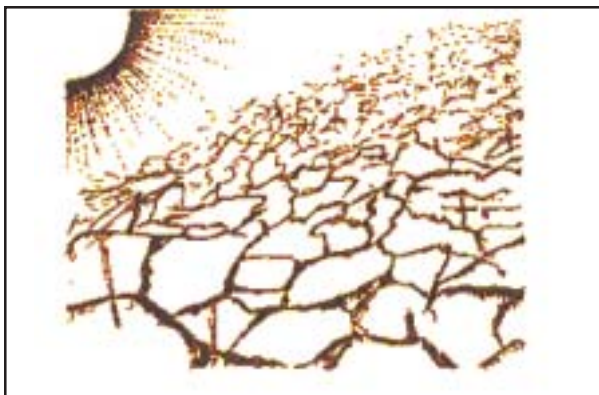
Earthquakes that occur under water, in the oceans, cause huge waves

called tsunamis that have some times raced across the ocean at 8000 km/h. Earthquakes are more likely to occur along **faults**. Delhi, our capital city lies near a fault, and is hence highly earthquake-prone. The fact that it is also densely populated and has crowded residential areas makes it more vulnerable to disaster.

Drought: is a natural phenomenon, which happens when an area receives lesser rainfall

Important Terms

- 1. Faults:** are places in the earth where the rocks are broken and the rocks on one side have moved in some direction relative to the other. Faults are planes, not lines



then expected, or in comparison to the **normal rainfall** levels for the area. It is a dry situation characterised by deficit rainfall, lack of water for household use or agriculture, or a deficiency of surface or sub-surface water leading to acute shortage of water.

Environmental degradation is a major factor that increases the effects of drought. Deforestation, soil erosion (by wind and water),

loss of **bio-diversity** and excessive use of ground or surface water result in drought. It causes large-scale starvation, loss of assets and livestock and death. Drought is a perennial feature in some states of India.

Floods: are caused when water rises above and beyond its normal place or course,



causing areas to be submerged with water for prolonged or short periods of time. They are caused primarily due to the peculiarities of rainfall in the country, and are the most frequent and often most devastating disaster in India. While the Ganga and Brahmaputra rivers cause the largest floods in India, other areas in the west, east and south also experience floods.

Cyclones: A cyclone is a storm that occurs

Important Terms

1. **Normal rainfall:** When the rainfall for the monsoon season of June to September for a place is within +/-19% of its long period average, it is categorised as normal. When the monsoon rainfall deficiency exceeds 19%, it is categorised as deficient or scanty.
2. **Environmental degradation:** in simple terms is the reduction or deterioration of environmental resources that harms us in many ways.
3. **Bio-diversity:** is the term for the variety of life and the natural processes of which living things are a part. This includes the living organisms and the genetic differences between them and the communities in which they occur. The concept of biodiversity represents the ways that life is organized and interacts on our planet. This balance or equilibrium is challenged by environmental degradation



due to a difference in temperature and pressure of air, over the warm waters of the Oceans. It is accompanied by strong gales and lashing rain, and tidal waves that cause floods in coastal areas. A cyclone can carry the power to destroy concrete buildings, blow away a cement roof, uproot trees, and wash away homes in villages.



Manmade disasters may result from major accidents or inadvertent as well deliberate actions of individuals, groups or governments. For example terrorists may blow up a train or building with explosives. Manmade disasters could be nuclear (The nuclear attack on Hiroshima and Nagasaki in Japan in 1945). Nuclear weapons when used cause a lot of destruction through the generation of heat, fire and radiation. Biological disasters can be caused by preserving and releasing germs of deadly diseases such as small pox, jaundice etc, or by polluting water with such germs in a particular area. The use of Anthrax by terrorists to eliminate people in the USA in 2002 could be called a biological weapon.

Manmade disasters could also be caused by the misuse or spread of dangerous chemicals. The release of Methyl

Iso-Cyanate or MIC, a lethal gas in Bhopal in 1984 in an industrial accident caused the death of many persons almost instantly. Almost two decades later, people are still suffering from the after effects of this disaster.

More common manmade disasters are major fires, land, air or water accidents caused by collisions, breakdown, etc., and collapse of bridges and buildings.

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Manmade disasters are preventable. For instance, by adhering to rules that govern the way a building must be constructed (these are called **Building Bye Laws**, and are issued by the Government), we could ensure that it is strong and durable. Nuclear Non-Proliferation Treaties are agreements made internationally by countries, mutually agreeing not to develop nuclear weapons for mass destruction. Further, by adhering conscientiously to safety measures in industries, accidents that cause suffering could be prevented.



Natural Disasters too can be **mitigated**. By being prepared to face and respond to them effectively, we not only conserve the advances made by civilisations, but also minimise the losses that disasters inflict upon communities, that some times take us years backwards in progress. Disaster Management hence helps us to adapt ourselves to nature and learn to use it to our advantage

Taking care of our environment plays an important role in the mitigation of disasters. While economic development is necessary to match the demands of increasing population, we have to ensure that it does not result in environmental degradation. Development should therefore be planned in a judicious manner and in tune with sustaining and protecting our environment.

Important Terms

- 1. Building Bye Laws :** a set of rules and regulations that prescribe the standards for construction of, spacing between and access to buildings. The purpose of these laws is to ensure that all constructions in the country conform to disaster resistant designs, as well as layout.
- 2. Mitigation :** Actions that reduce the severity of damage caused by disasters to people and property such as cyclone resistant houses in cyclone prone areas.

To face disasters better, we need to understand their causes and effects, as well as what we as students can do to help in the effort toward creating a more **disaster-resilient society**.

In a disaster situation, a large number of agencies, the Government and communities come together to help in coping with the after-effects of the disaster. In recent times, these agencies, also called **civil-society** have been collaborating even in times when there is no disaster, to put in place, an effective Disaster Management Plan. A Disaster Management Plan for a country is made up of a number of plans at various levels such as the community, the block/taluka (in rural areas), the district and state integrating into a National Plan. At the community level, it is called the Community Contingency Plan, about which you will learn more in Class 9.

Women and Children in Disaster Management...

Our mothers have an important role to play in disaster management, since they manage our homes, all our needs and us.

We as future responsible citizens of our country can do wonders in assisting our elders in preparing and coping with disasters.

Form groups in your class to identify the role of women and students in preparedness, mitigation and response and share your findings.



29th October is National Day for Disaster Reduction. The children in the picture above are creating awareness in their neighbourhood on the importance of being prepared for disasters.

Important Terms:

- 1. Disaster-resilient society:** is one that can endure the effects of a disaster, while minimising the occurrence where possible, and the destruction that can be caused by it.
- 2. Civil Society:** a term used to describe the various organisations that come together to pursue the interests of communities, development goals, etc., including disaster management in recent times. It includes development organisations such as the United Nations or the Red Cross, Civil Defence, NCC, NSS, Scouts and Guides, hospitals, ambulance services, educational trusts, etc. as well as the public and private sector industries and institutions. Civil Society forms an important part of disaster preparedness and response.

What is a Community Contingency Plan?

It is a series of assessments and evaluations followed by the development of proposed plans of action in anticipation of a natural or human-made disaster. This involves:

- 1) identification of the potential threat, e.g., proximity to an active volcano, settlements on seismic faults or flood plains, history of drought, food shortages, or epidemics, etc.;
- 2) identification of likely impact of disaster, e.g., number of people potentially affected, disruption of food or water supply, transportation system, or communication channels, damage to property, roads, health facilities, duration of disaster and its effects;
- 3) identifying methods to mitigate the disasters such as shelter-belt plantations to break the intensity of cyclones along the coast
- 4) anticipating and developing optimum response to such a threat, e.g., educate/alert population to potential risk, develop notification and evacuation plans, provide means of transporting people, food and medical supplies;
- 5) Identification of existing resources, e.g., areas where shelters could be established, sources of food, water and medical supplies, communication and transportation systems, location of reconstruction equipment.
- 6) Conducting periodic 'mock drills', which are a simulation of a disaster to assess and improve the effectiveness of the disaster preparedness plan of a community or system



EXERCISES

1. What do you understand by disaster preparedness? In India, which are the common disasters we have to be prepared for?
2. What role do you see for yourself in making your community disaster-resilient? Discuss in groups, and share your findings with the class.
3. Discuss methods organise yourselves to manage disasters.
4. When does a hazard transform into a disaster?