

1. *Introduction...Do you remember*



Are we in hazard free zones?

Do you know that any of these disasters could hit your area at any time, with or without any warning?

People have been living with risk ever since they first joined efforts, shared resources and assumed responsibilities in social groups. Social development and human well being have advanced only because people have taken risk. Time and again, we see the terrible toll that natural disasters inflict on vulnerable communities around the world. Over the recent decades there has been an alarming increase in the occurrence of natural disasters and the magnitude of their social, economic and environmental impacts. This extensive damage to lives, property and livelihood of the affected communities has turned back the development clock of the areas by decades.

But are we apathetic towards disasters?

The answer is 'No'. The recent Kumbakonam fire tragedy in Tamilnadu that killed 93 innocent lives has made us all think about "our lives" which is precious. The recurring floods in Assam and Bihar, frequent drought in Rajasthan and Gujarat and the 2001 earthquake in Gujarat have disrupted the normal life of people across the country. Disasters are as old as human history. They have been mostly dealt with from a purely humanitarian angle, while natural hazards such as cyclones; floods,

droughts and earthquakes have been analyzed technically and scientifically within scientific disciplines. Disasters can no longer be seen as ‘acts of God’ or ‘acts of nature’ over which we have little control nor can we leave disasters to be understood by natural scientists. It is high time that we as responsible future citizens of our country think of it and get ourselves prepared for a safer tomorrow.

Knowing about risk that lead to disasters, understanding how they affect our livelihoods and environment and dedicating collective efforts to manage those conditions. This book on Disaster Management, “**Together Towards a Safer India – Part III**” aims at stimulating the students and the teachers by transacting through case studies on various hazards. Let us analyze some of the major disasters that have created havoc with huge loss to life and property and how the affected communities have been able to cope up with it. Let’s learn from the past experiences and get our-selves prepared. This chapter gives an overview of all the chapters that has been covered in this book.

Just one year to the day that an earthquake hit Bam, the dusty desert town in southern Iran, nature struck again on Sunday (December 26). The strongest earthquake in the world for 40 years struck under the sea north-west of the Indonesian island of Sumatra. Massive sea surges (tsunamis) spread from its epicenter bringing death and destruction to the coastal areas of south and south-east Asian countries ringing the Indian ocean. Waves ranging in size from 10 ft. to 30 ft. were reported by different witnesses. Water surged kilometers inside into many of the islands. Radio listeners who woke to hear the news in morning were told 500 were feared dead, but by evening the number was approaching 10,000 and still climbing. Many thousands more were missing or injured and millions more displaced... **Chapter 2** of the book aptly discusses the devastating killer waves that hit the country disrupting the normal life and ways and measures to prevent oneself form them.

The Tragedy of Kumbakonam

Kumbakonam, July 16, the fire of sustenance turned into a mass pyre for children between the ages of seven and nine with at least 93 getting charred to death, trapped in their blazing thatched-roof classrooms in Saraswati Primary School. The fire started in a kitchen on the ground floor when the mid-day meal for children was being cooked. Fire fighters said that the victims stood no chance of survival as the blazing thatched roof collapsed on the trapped children. The terrible tragedy not only jolted the pilgrim town of Kumbakonam in Tamil Nadu, but the entire nation.

**Are we in schools that
are safe?
Ask yourself, your parents
and teachers today!**



“Prevention is better than cure”.

Have you ever analyzed why did this tragic incident occur?

The local authorities who reached the site as soon as they received the information said that the school had no proper evacuation route and there was lack of fire safety measures taken up by the school authorities. Due to the lack of awareness among the teachers, staff members and the children present in the school, many precious lives were lost. The local hospitals lacked the facilities to cope up with huge number of burnt victims and the school children too were not trained in *first aid*. No initiatives were taken up by the authorities to review the structural safety of school functioning in thatched rooms.

Who is to be held responsible for it? Is it the school administration, teachers or the children?

Yes, all of us. Each one of us has a role to play. It was important for the school principal along with the other staff members to prepare the *school disaster management plan* and share it with the district administration. They need to train the students on first aid, search and rescue and usage of fire extinguishers. They too need to create awareness on the do's and don'ts for fire and other hazards that they are vulnerable to.

You can yourself be safe and also save the lives of your dear friends by knowing some of the “*Survival Skills*” for search and rescue and first aid. **Chapter 3** deals with the survival skills, which would give you an insight into *Search and Rescue* measures that need to be taken during an emergency and *First Aid* measures that need to be taken for burns, bleeding, snakebite, poisoning etc.

Dear Friends,

Join me today...

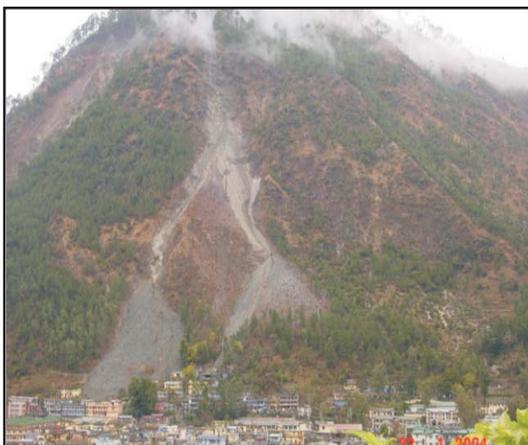
Karnataka's Fire Department runs a programme called SAFE (Students Association of Fire Education) imparting fire safety training to students.
www.karnatakafireservices.gov.in

Talk to the Fire Service Department in your area and find out if they have any such training facilities. If 'yes' get yourself trained now.

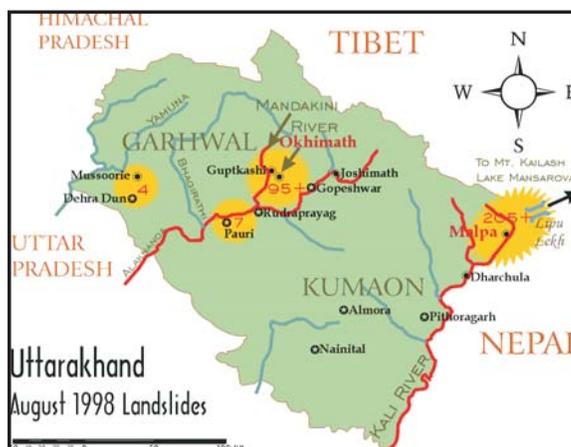
ACTIVITY

If you were one of the students in the classroom where these ninety-three children were your dear friends, how would you have reacted to it and what steps would you have taken up? Analyze it with your friends and teachers and paste your learnings on the notice board of your classroom.

Yet another Example.....



Landslide affecting the villages



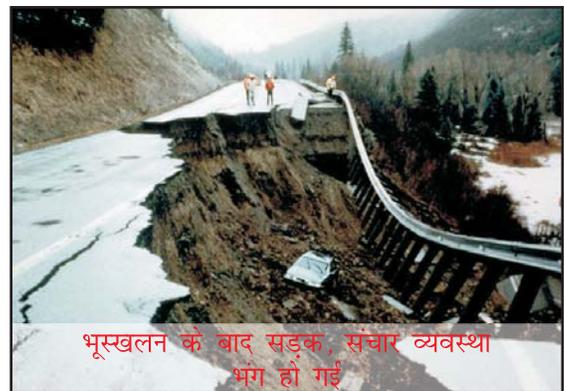
In the later half of August 1998, severe rains lashed the Himalayas, causing devastation in their wake. On August 14, 69 people died in a landslide in Okhimath block (near Gutptkashi). A week later, the entire village of Malpa, lying along the Kali River on the way from Dharchula to Lipu Lekh, was swept away

Isn't one-week time enough for the people of Malpa to evacuate? Probably there was no proper communication given by authorities to villagers.

The death toll, 205, included road workers, porters, members of the border police, and five dozen pilgrims returning from a yatra (pilgrimage) to Mount Kailash and Lake Mansarovar in Tibet (August 18). Two dozen more people died when Mansuna village in Rudraprayag district also disappeared (August 19). In addition, the torrential rains demolished hundreds of homes and infrastructure and intense winds also hampered rescue efforts.

Isn't site selection important for carrying out constructions?

By August 20, the authorities began evacuating 50,000 residents of the Okhimath block, as rubble, debris, and boulders had fallen into the Madmaheshwar River, a tributary of the Mandakini, plugging it and causing the formation of an artificial lake. Many houses that were located in these vulnerable sites were washed away. As the lake swelled, so did the danger, as a flash flood would submerge two - dozen villages. The army cautioned against blasting the artificial dam with dynamite, as the sudden discharge would overwhelm the villages below. Instead, the villagers suggested that the lake should be left to erode naturally. Also, local villagers and social activists went on search and rescue expeditions, while various NGOs scrambled to attend to the needy.



भूस्खलन के बाद सड़क संचार व्यवस्था भंग हो गई

Don't you think help from various agencies and community has helped in rapid search and rescue operations?

In Dehradun and other large cities, generous people rallied to send aid to the victims of the landslides and flooding that had afflicted the plains.

What do you think were the steps that were to be necessarily taken by the people and the administration?

Early warning to the villagers and the pilgrims regarding the weather, specialized training to the villagers on search and rescue and first aid, construction of retaining walls on the hilly terrains would have saved many precious lives.

If you are residing in any of these areas, then look out for its safety. Know the type of soil and if vulnerable move to a safer place.

Develop an evacuation plan for your locality in case you are prone to landslides.

From the above case study we need to realize the need for *alternative communication* for carrying out search and rescue operations and also establish linkage with various government and non-governmental agencies. **Chapter 4** of the book discusses about various *alternative communication systems* that exist in the world of science and technology today. As this chapter is based

on science do take help from your Science teachers. Hope you all will enjoy reading it and relate it to your favorite subject of 'Physics'.

This case study that you have just read points out how important it is for us to have an understanding of good constructional practices so that you are safe in your schools and at home. To have a better understanding of *safe construction practices* **Chapter 5** of the book discusses about various safe construction practices that needs to be adhered to by people residing in vulnerable pockets like earthquake, landslide, flood and cyclone prone regions of the country.

It is time to take help and support from the government and various agencies like the NCC, NSS, Home Guards etc and get ourselves prepared. **Chapter 6** discusses the roles that government and various agencies play in managing disasters. You too as an active and responsible citizen of the country can play a major role. You can be a volunteer and also a skilled personnel and save lives of your near and dear country men/women in any disaster scenario.

To have a safer living and a safer tomorrow it is time for us to plan ahead for our community/locality that we live in. Being a part of the community you should now take up the responsibility of preparing the community/locality that you live in, based on the hazard that you are prone to.

Chapter 7 of the book discusses the components and the process of preparing the disaster management plan for your area. The case study below shows how proper planning at the community level has saved people of Bangladesh from the devastating cyclones.



Safe traditional house which has survived the major landslide



Community planning in progress

Following the 1970 cyclone, which killed 50,000 people, the Government of Bangladesh began working to improve the coastal warnings and evacuation. The main objective was to issue warnings, building and operating shelters assisting evacuation, search and rescue, first aid, relief and rehabilitation and building up community preparedness capacity.

A cadre of 32,000 village volunteers, men and women were, organized into local teams of 12. They were equipped with radios to monitor weather bulletins, megaphones and hand operated sirens, first aid kits, rescue equipments and protective clothing. These volunteers were trained at regular interval. Specialist training such as radio use, first aid and leadership was provided separately. The volunteers organized regular rehearsals and demonstrations in the villages and mass awareness campaigns every year. However, this community preparedness programme has been widely acknowledged and hundreds and thousands of people can now routinely be evacuated from the path of cyclone. In May 1994, three quarters of a million people were safely evacuated; only few people died.

Thus, from the above case studies it is evident that proper planning and knowledge is necessary for reducing human, social, economic and environmental losses due to various natural and man made hazards. This would build a disaster resilient community and would make the world a safer place to live.

Reference for further reading:

- <http://www.gsi.gov.in/quake.htm>
- www.karnatakafireservices.gov.in.
- Good Practice Review - Disaster Risk Reduction Mitigation and Preparedness in development and emergency programming by John Twigg.
- World Congress on Natural Disaster Mitigation, Proceedings volume -2