EFFECTIVE COMMUNICATION SYSTEM FOR DISASTER MANAGEMENT - A STUDY

A. PRABAKARAN[a,*] and M. K. BADRINARAYANAN[b]

[a]Research Scholar, Hindustan University, CHENNAI (T.N.) INDIA
[b]Department of Business Studies, Hindustan University, CHENNAI (T.N.) INDIA

ABSTRACT

Disaster is a major event or accident, which may results n temporary or permanent changes in landscape and also may results in huge loss of lives and property. Every day India is exposed to a disaster at one remote corner resulting in huge losses. People who are living in urban areas and educated men are comparatively safer from the rural illiterate men. This article stresses the need to have a mechanism to educate rural people by way of effective communication system to minimize losses.

Key words: Pre disaster awareness, Risk analysis, Crisis communication, Relief and rehabilitation.

INTRODUCTION

India is vulnerable for many disasters. India is divided into five major earthquake zones and Chennai is in Seismic Zone III, which is vulnerable for moderate to medium strong earthquakes. The fact is almost major land area in India is vulnerable for earthquakes. Our country records major damages to property and severe loss of lives due cyclones every year. A major area of land in India is exposed to severe floods and we have recorded severe droughts every year. The rural India is under the threat of epidemics due to poor hygiene. Disasters can be divided into Natural disasters and manmade disasters. The following are the natural disasters commonly encountered in India namely, Earthquake, Tsunami, Volcano, Landslide, Cyclone, Flood and Forest Fire. We have seen following manmade disasters namely, Acts of Terrorism, Major transport accidents, Industrial Accidents, War, Nuclear Threat, Outbreak of diseases and Manmade fire. Let us study the importance of Communication during past disasters and the need to have a critical study to have effective and timely communications in the event of disasters. Government agencies have to work along with experts dealing disasters to save the lives of these disaster victims.

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*Author for correspondence; E-mail: prabaakaran@gmail.com

Need for engineered buildings

Of all the disasters, earthquake does not kill the people directly. It is the building which is built without following the required earthquake resistant features collapses down and kills the occupants. But in India almost all the rural buildings are constructed as non engineered buildings without any technical design and supervision and this cannot happen in any developed countries. Technical consultancy should be given to the rural people by the government at free of cost and proper communication should be given not build houses with masons without technical advice. Government is rendering free medical services and free legal services for poor people in India and rendering free technical services for the construction of houses for the poor will save a huge money instead of resorting to post disaster rebuilding of the houses in rural India.
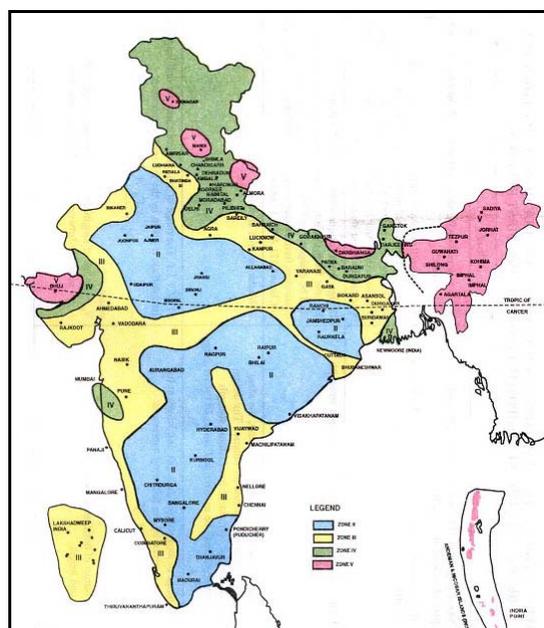
Fig. 1: Seismic map of India

Crisis communications during tsunami

Tsunami waves generally gets generated due to the seismic disturbances below ocean beads and these high tide sea waves travel towards the coastal line at a constant velocity. If we can predict the distance at which these waves are generated, we can roughly predict the time gap between the warning and arrival of waves at sea shore. India has recorded the total destruction of a sea shore city, Kaveripoompattinam during Chola

kingdom due to tsunami waves. The recent destruction of the Dhanushkodi near Rameshwaram due to high tide sea waves remains as a warning to us. But we could see housing colonies of fishermen built very near the sea shore at an unsafe distance. Effective crisis communication is needed to the people during the tsunami attack to evacuate the people from the coastal area to safe places. Every second is important to save the life. But this job is normally done by the police and the less number of people from the fire service. The recent tsunami has witnessed loss of thousands of precious human lives because of the failure on the government agencies to have effective communication during the tsunami disaster. We cannot depend on the mobile communication system as normally done as the entire communication system will get jammed due to the millions of repeated calls made by the disaster victims and their relatives to ascertain about their safety. We should depend on the battery operated hams radio and information by human chain as a fool proof methods.

Ill sides of landslide

Uttarkhand landslides subsequent floods had given as bitter lessons to be learnt. There was no communication to the affected area and the government agencies could reach the disaster site only after many hours. The places were on hilly terrain and were extremely difficult for the relief teams to reach those places. Many constructions are seen built in an unsafe manner without following the development control rules of the local land building development authority.

Fig. 2: Uttarkhand landslides and floods

We need to communicate to the local people in a periodical manner about the potential danger in constructing the building on the hilly terrain without following proper technical details. Verbal communication should be given not to build any illegal

constructions and should immediately demolish any unauthorized construction built without adopting these details.

Chennai under flood

The recent flood in Chennai has experienced many hardships related to miscommunications between several agencies involved in the relief operations, Many voluntary organisations and several other independent groups have involved themselves in the relief works without following the ethical and professional norms. This has resulted in great difficulty difficult for the government agency to coordinate with them. Every smaller voluntary agents stated distributing the food pockets, without proper communication with government agencies, which in turn has resulted in a lot of resistance and confusion. It is right time for our people to have proper live saving implements at village level to meet out the emergencies in the event of a disaster.

Fig. 3: Chennai under flood

Timely forecast of cyclone

In case of rural settlement almost all the people are to be relocated to the safer areas and cyclone shelters, if we have proper communication system to inform every stakeholder about the probable time of arrival of cyclone. Otherwise in will result in serious accidents with huge loss of lives. Even developed countries have miserably failed in saving their people from cyclone in not adopting timely recue operations. Hollywood reporters commented about the Katrina hurricanes management and its devastating aftermath in US. It critically analysed the failure of life support system in the American hospitals, after the hurricane, in treating the victims in 2005. Due to poor communication and planning, FEMA was unable get lift saving drugs to many of the areas where it was desperately requested. The victims received rescue materials like heaters, which are needed only for a few people with hypothermia, due to miscommunication. A lot of money was spent on unwanted issues.

The relief team brought temporary blue tarp roof, which was costlier than permanent roof, When there were multiple layers of contractors engaged for removal of building debris, they have ignored the local people available for handling such work at a much cheaper cost. A FEMA team led by Phil Parr has used helicopter to transport the relief materials to disaster site, but failed to bring the high tech mobile communication center with 30 computer work stations on time. The satellite phones and internet connectivity could have enabled emergency network for excellent communication, and in the absence of such facility it has resulted in a lot of confusion. Most useful relief items. Red October has been brought to or leans, as soon as the winds subsided. But it was placed in parking lot for a long period due to confusion that two people, who are heads of two relief operations has demanded it. In was utilised only after seven days, which has resulted in many problems.

Fire philosophy of a spark to major flame

The time taken for a spark to become fire is about 30 to 40 minutes as described in the ISO fire curve. This requires meticulous planning for building occupants to adopt effective fire management system to avoid major fire accidents. They should be in a position to have enough number of fire extinguishers of different types namely carbon di-oxide (CO_2) and tri chemical powder (TCP) fire extinguishers to manage different types of fires. Sufficient no of fire buckets filled with dry sand should be placed in the vicinity of major electrical installations to fight electrical fire. What is very critical here is to have effective communications, to all the stake holders of the premises, to teach them how the fire can be managed in the initial 30 minutes period. Electrical appliances should be periodically serviced to avoid electrical short circuiting. Proper communications are needed to inform the people that prevention is better than cure in case of fire and that we should be in a position to put of fire by ourselves within a period of 30 to 60 minutes in the event of fire, to avoid major fire accident.

Fig. 4

CONCLUSION

Natural disasters cannot be prevented and we should be prepared to face them with confidence. Pre disaster awareness and education will prevent major losses due to disasters. We should establish proper communication system to handle crisis situations due to disasters to prevent loss of lives and property.

(i)   The government has to install dedicated community radio in AM wavelength, to take care of disaster education as well as guide them in the event of a disaster.

(ii)   Private and government technical institutions can install amateur radio, namely Hams Radio to get information about the possible disaster events to communicate to the concerned government agency and also to alert the people.

(iii)   The police department should develop mobile satellite communication system in their control rooms to monitor disasters and to get connected to developed countries to have expert opinion.

(iv)   Places of worships as common area for the gathering of people should be provided with effective battery operated communication system to alert the people.

(v)   Even families can device system to meet at a common place or to communicate to a particular place to have happy reunion of the members of the family after the disaster.

(vi)   In nutshell we should develop communication system at family level, at colony level, at the village level, at district level and at national level to receive the messages and to alert the people in the event of a disaster.

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