Research Paper   **Architecture**

Disaster Management Through E-Learning

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ABSTRACT

Disasters occur and sweep away the life and property leaving those paralyzed who are not washed off. Since long, human race has been suffering innumerable disasters ranging from floods to earthquakes. Need of the day is to explore the ways of managing the losses in the natural disasters, so that we are left with some strength to overcome the effects and recollect ourselves. The paper highlights the achievements in various fields of technology, which have already reduced the burden from the shoulders of mankind. Increasing technological advancements can be an affordable answer and a possible solution. This paper tries to bring forward some of the important aspects of these developments which can now be employed through various means to prevent the losses during these disasters.

Keywords : disaster, vulnerability, preparedness, rehabilitation

INTRODUCTION

DISASTER is an unexpected event that kills a lot of people or causes a lot of damage. These disasters are caused by natural forces and are completely uncontrollable. The list of these disasters ranges from cyclones, floods, earthquakes, tsunamis and after effects of such disasters are usually huge fire. Out of these some cannot be predicted at all like earthquakes whereas some like fire can be avoided by intelligence.

MANAGEMENT means the act of controlling or running a business or a similar organization. Management word can be easily split into man-age-ment and what we are left with is a combination of three words which are self explanatory, man, age and ment.

Man refers to human beings, of age unrestricted and ment refers to the action of development.

Disaster management thus collectively talks about the ways and means of dealing with these situations most intelligently.

HISTORICAL BRIEF

Taking into account some of the losses that we have suffered during last few years, the most frequent one has been earthquake. The history of destructiveness is very long and no less than 25 major earthquakes have been recorded prior to 20th century.

Following table gives details about some earthquakes and the losses.

Date	Location	Intensity	Remarks
1819,16[th] June	Cutch	7.7-8.2	Earth rose by 10 feet, great damage, many thousands dead
1934, 15th Jan	Bihar	8.7	Largest ever earthquake recorded in mainland India.
1950,15[th] Aug	Assam	8.5	Largest earthquake recorded in mainland India since Independence.
2001, 26th Jan	Gujarat	7.6-7.6	Epicenter in Kutch, loss of life in Ahmedabad, Kutch and Bhuj
2004, 26th Dec.	Indian Ocean	9.0-9.3	Third largest earthquake ever recorded

TABLE-1
IMPORTANT EARTHQUAKES IN INDIA

NEED OF THE HOUR

Gone are the days when we were worried about the literacy level. Future demands for computer literacy. 10-15 years back computers entered into the education system as special certificate courses of 6 months or so, today it is a curriculum exercise and a compulsory subject in schools introduced at primary level. Computers have occupied almost all fields and it is expected to reduce lot of table work. It has become mandatory for almost everyone to literate themselves and others too about computers and the technology related to it.

Various technological advancements have been an added advantage and have been successful in saving lot of precious time.

PRESENT SCENARIO

Computer based software have reduced the cumbersome exercises in various specialized fields. The simplest of all the software popularly used today, is MS OFFICE, which has been explored to all possibilities, in almost all the fields of Science, technology and Arts. Civil engineers and Architects can now have privilege of AUTOCAD which reduced pains of hourly drafting, 3D STUDIO MAX which has been effective in creating animations and views, STAAD which solves the structural problems and list is endless. MACROMEDIA has resolved the problem of creating innumerable frames for creating animations to some extent. The list of achievements can go on and on. WWW- World Wide Web has increased the connectivity among people in different parts of world. Web browsing is an interactive and informative phenomenon today.

BRAINSTORMING

It is now time to scratch our minds and explore the probabilities of exploiting this man made device to best of its efficiency and educate people. Search for the appropriate method or action at right time in the right age group is all that we need to do today. What all can be the possible ways to manage disaster is yet to be explored.

The exercise of brainstorming will help us in setting a track to be followed. Following questions may result in incredible solutions.

· What is the possible damage?
· Where is it likely to happen?
· What is the expected loss?
· What all is expected to get damaged?
· How can technology help us in stopping something natural?
· What do we need to do during and after such an attack?

It is a series of queries and leads us to a doorway of broad classification in terms of stages of study and analysis. We need to identify the objectives i.e. what is to be done, the time, i.e. when is it to be done and the resource personnel, i.e. who is supposed to do it.

PLANNING CRITERIA

Prevention is better than cure. Management policy involves 3 stages which have been identified to be conscious and prepared for a disaster. These can be categorized as before, during and after a disaster. These stages are to be studied in depth and rules set for each of the stages in advance to avoid any kind of panic situation.
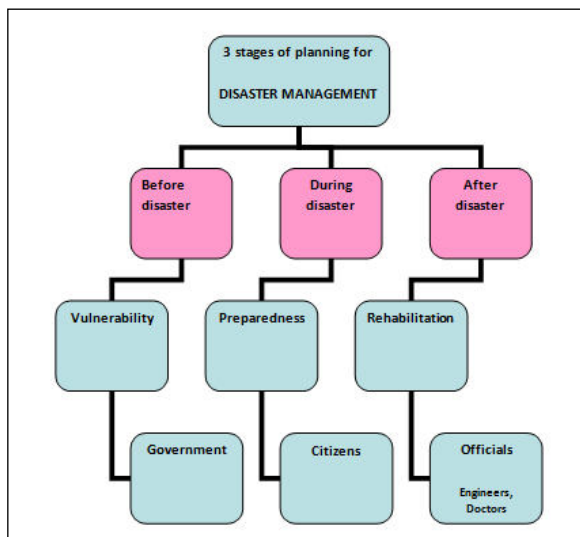

Figure 1. The different stages of disaster management

VULNERABILITY

Vulnerability is a condition wherein human settlements or buildings are exposed to a disaster by virtue of their construction or proximity to hazardous terrain. Buildings are considered to be vulnerable if they cannot with stand the natural forces.

Action suggested: Assessment

Areas along the coast are more prone to cyclones and floods where as areas falling on Ring of fire, where tectonic plates are moving, is more vulnerable to earthquakes. This assessment can indeed be done before the disasters happen, just to realize the fact about the areas which are highly on risk factor and need special care.

Resource personnel: Government

GIS can be a useful tool to collect this information. Technical

institutes can pick up this opportunity of collecting such database through research programme and surveys. It becomes mandatory for government organizations to take necessary steps to prepare such data and make people aware of their areas of occupancy and risk related. Government and non government organizations can come forward in transferring this information to common man, not to create panic but to make them aware of the danger and initiate their willingness in learning the preparedness programmes.

PREPAREDNESS

The most beautiful and intelligent creation of God on earth has no power to stop these disastrous natural forces. But preparedness can reduce the extent of damage and loss. It is the most important stage in management against disasters because here we are preparing the masses of the country to face something which is unpredictable and unseen. They have to be psychologically prepared for the worst and hope for the best.

Action suggested: Mental and Physical Preparedness

It becomes mandatory for every citizen to be prepared and have elementary knowledge of what a disaster is and the remedial measures to be taken before, during and immediately after it happened. The issue is to educate the citizens comprising of all classes and literacy level. They should know well what to do and what not to do.

Resource personnel: Citizens

It is only a matter of increasing literacy among common man. How can technology then help us in achieving this goal? It is first of all very important to find out the level of literacy in the masses and also effective means of communication. Radios and TV are still famous source of information and easy to adopt. Apart from these there can be other effective means of transferring the information as follows.

TABLE – 2
DIFFERENT LEVELS OF LITERACY

Literacy level	Mode of communication
Low	Animation movies with well defined storylines and local languages can be prepared by experts using various software like Macromedia. Simulations about the disasters and their after effects can be prepared for making them understand the dos and don'ts.
Medium	Simulations, Documentation movies & Guides about the disasters and their after effects can be prepared for making them understand the dos and don'ts. People can be educated through various training programmes either through lecture series or e-learning.
High	Web browsing can help in giving all the latest information. Interface which is well designed can be more informative and help in instant learning. Interactive websites and WIKI can be advance methods of data transfer and effective learning.

REHABILITATION

The exercise that starts immediately after any disaster is to place things back into their place. Lot of emotional and physical strength is need of that hour. One has to be prepared to face the consequences and still act very fast. Lot of housing may be required immediately to rehabilitate people; especially poor. Temporary shelters need to be provided. Emergency services are to be employed.

Action suggested: Transfer of information

Fast and effective decisions need to be taken in time. The exercise at preparedness level will guide in action plan at this stage. Generally, the cable networks are destroyed after such disasters and communication becomes difficult. Electronic data transfer or WWW can help in transferring the details to all the parts of country once the information is securely escaped from the affected area. Along with the television network, WWW has also gained popularity as an important source of information. The details of various actions taken by people in one part of world after such disasters can be uploaded on the

websites for others to read and take lessons from. These lessons can comprise of fastest construction methodology and other useful information about dos and don'ts.

Resource personnel: Officials, Engineers, Journalists
The officials need to educate themselves by frequent access to such sites and keeping themselves updated about what is happening in the world. They automatically become the resource persons when the time of action comes. Journalists are important resources of capturing the latest information and putting them on sites for others to view, learn and act.

ROLE OF ACADEMICIANS
Academicians need to be sensitive enough in designing the course curriculum for the engineers and Architects of tomorrow. All the aspects of disaster, its management and mitigation should be made part of curriculum, to update the tech-nical personalities with the equipments to avoid losses to a maximum extent by their planning and actions. Engineers should be made sensitive by attending to social exercises and learning more and more through World Wide Web to acquaint them with the best and be sensitive towards the needs of the society.

CONCLUSION
Disasters cannot be prevented because they are natural forces and governed by GOD. We, human beings, can only prepare ourselves and become good managers to deal with the disasters, so that we bear minimum losses and have a speedy recovery. E- Learning can be adopted as fastest, interesting and vibrant mode of communication. Management plans with electronic devices are easy to transfer and understand. Perhaps this discovery of mankind, with the grace of GOD may help us in saving much of property and life.

REFERENCES

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