

Role of Information, Education, Communication and Training in Disaster Management

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Abstract

Information, Education and Communication (IEC) are of vital significance for disaster preparedness, prevention and mitigation. It promotes an alert community which is *sine -qua* non for any successful activity. IEC are the essential constituents of any programme especially in a disaster related scenario. IEC requires the administrative machinery, Non Governmental Organizations (NGOs), Community-based Organizations (CBOs), other agencies and the community to be prompt, active and well informed to carry out the activities confidently. Hence IEC should be given top priority in any disaster management programme.

Creation of awareness is an integral part of the process of social development, communication has the power to liberate the minds and potential of people. Critical awareness is needed in every field linked to human development. The generation of an alert public will hinge on effective communication of information and ideas that relate to people's needs, aspirations and capacities. In this sense, getting the development process initiated is largely the task of information, education and communication. This research paper attempt to study the nature and significance of IEC and training, and the concept of community awareness. The important components and strategies of IEC and training shall also be focused.

Keywords: information, education, communication, awareness and training

1. Nature and Significance

The goal of any disaster management initiative is to build a disaster resistant/resilient community equipped with safer living and sustainable livelihoods to serve its own development purposes. The community is also the first respondent in any disaster situation, thereby emphasizing the need for community level initiatives in managing disasters. To encourage such initiatives, the following are

required:

- a) Creating awareness through disaster education and training and information dissemination are necessary steps for empowering the community to cope with disasters.
- b) Community- based approach, as we have discussed in the earlier Unit, adapted by most NGOs and Community-based Organizations should be incorporated in the disaster

management system as an effective vehicle of community participation.

c) Within the vulnerable community, there are groups, which are more vulnerable e.g., women and children, the aged and infirm and the physically challenged, who need special care and attention especially during disaster situations. Efforts are required for identifying such vulnerable groups and providing them special assistance in terms of evacuation, relief, aid and medical attention to them in disaster situations.

Management of disasters should therefore be an interface between a community effort to mitigate and prevent disasters as also an effort from the government machinery to buttress and support popular initiatives. Broadly speaking, communication is the means by which objectives of any programme are clearly specified to ensure fruitful results. It can be the tool by which special information inputs are fed into social systems. It is the means by which behavior of the personnel engaged in the programme is modified, change is effected, information is made productive and goals are achieved. There is a need to build on the ideas, concepts and practices that people already possess. There is a necessity to repeat and reinforce information through different methods. Use of existing modes of communication such as songs, drama, street plays, story telling, shall facilitate this activity. Clear, simple language with local expressions need to be in vogue. Opportunities are required for dialogue and discussion to allow learner participation and feedback on the information which is disseminated. In addition, demonstrations to show the benefits of adopting sustainable practices are to be extensively utilized. Each of the three components of IEC, i.e., information, education and communication, have their own distinct significance, origin, perspective, and focus area.

1.1 Information

Preparing the community for disaster management through information implies the transfer of basic knowledge by means of data, practices and processes to the community so as to increase their awareness. The key issue here is the availability of necessary information to the people, based on which they may form more realistic perspectives, and be better prepared to anticipate and face the disaster. It is useful for

the administration and other agencies for planning purposes, and beneficial to the community for development of internal coping mechanisms.

Information addresses the questions of *What, When, Where, How* and *How Much* with respect to the anticipated disaster. It also deals with the issue of probability of the occurrence of the disaster, more easily understandable in terms of extent of risk, risk, being the cumulative effect of hazards and vulnerabilities. So information in this context is to tell the community about the hazards such as floods, cyclones etc., and their causative mechanisms. These for example include, release of water from the upstream catchment of reservoirs, the time lag between such release of water and actual floods in the community locality, and downstream vulnerabilities such as deficiencies in the housing structures, sanitary conditions, lack of knowledge of epidemics and their causes and details of probable disasters that could occur due to the combined effect of the hazards and vulnerabilities. Information, in this manner creates a picture of the reality for the community, and helps them realize the risks. Information must be based on facts ascertained by competent authorities.

1.2 Education

Education implies learning that makes people aware and knowledgeable. Creativity addresses the values of the people in question and besides making them aware of the risks, it enlightens them about their issues, the actions needed to be taken and their roles, — and it also motivates them to act. Education is a continuous process throughout the human life that attempts to modify the attitudes, and behavior of the people. Education enlightens the people about the 'Why' aspect as to the occurrence of disasters. It tells them what to do and what not to do for preventing or mitigating disasters. It orients them about ways of managing situations, and provides them with several alternatives. People generally have a fatalistic attitude towards disasters, wherein disasters are considered as acts of God, and demonstrate helplessness to do anything to mitigate them. Education lessens this kind of attitude by making communities aware of causes of disasters, best available alternatives and means of mitigating them and enabling them to take counter disaster measures. The ways of imparting disaster education are dependent on the target groups. Usually, it is the

low income group communities that are most vulnerable to disasters and need to be educated. As such, the design and contents of the educational material have to be based on these considerations, and should be acceptable, understandable, interesting and motivating for the community. While educating communities, their traditional practices, and wisdom, existing knowledge in coping with such situation must also be kept in mind, and integrated with the educational process. Attempts need to be made to make the community understand the benefits of preparedness and mitigation, the relationship between the disasters and development. The aim of education is to promote an informed, alert and self-confident community that can cope with disasters.

1.3 Communication

Communication involves information exchange between two or more groups/individuals. It could be applied to both, education as well as emergency communication management. In terms of disaster education and preparedness, communication is a process of knowledge transfer to the community regarding disaster risks, preparedness and mitigation measures. In this process, the system is of flow of information from a singular awakened source to the mass group, i.e., the community. Another manifestation of the same process is in times of emergency build-ups when the communication relates to hazards forecasts. At such times warnings may have to be issued to the community regarding the impending disaster in a clear understandable manner. This is a critical and final stage of pre-disaster communication that gives the community a chance to take evasive action, or move away from the scene to a safer place in order to mitigate the disaster impact. Once the disaster strikes, communication becomes an essential support system for relief as well as Search and Rescue (SAR) operations. Field teams have to be in contact with the base station or central cell. The efforts of various agencies need to be coordinated for a better and wider coverage in an efficient manner. An effective communication system, facilitates various teams get to know what kind of assistance is required and in which areas. This is also useful for reaching out to the affected community with relief materials such as food, medicines and clothing. The field teams can also send back information to the base station regarding the extent and nature of

additional assistance required, and the deficient areas. They should also inform about the areas covered, so that other teams may be notified not to visit the same areas again, thereby avoiding overlap. Special medical help or evacuation teams may be asked in critical situations, and valuable time could be saved in getting these if there is an on-line communication system, which would eliminate the need for physical communication of information. IEC attempts to create and strengthen the community awareness about which we shall discuss in the next section.

Disaster communication management means the designing of appropriate communication strategy, procedures and contents in advance, according to the nature and objectives of the disaster, to smoothen its operations and avoid misunderstanding and other complicated problems which arise due to any communication gap. The purpose is to enlighten people likely to be affected by disaster so that timely preventive measures can be taken. Without the use of IEC activities disaster management cannot be effective.

1.4 Training

Training attempts to improve knowledge, skills and attitudes amongst the recipients. With regard to managing disasters, training is accorded a very important place, as it imparts the necessary knowledge and skills to varied categories of personnel. It improves the performance of people involved in managing the crisis. It enables them apply the knowledge and skills to situations. Training needs to be given to build, strengthen and enhance the capacities of individuals, organizations, and communities. It is necessary to have institutional support for effective training. Information Education Communication and Training activities are to be based on appropriate needs analyses. It needs to be holistic as there are several categories of personnel involved in disaster management activities. These include policy makers, government officials, specialists, technocrats, youth, NGOs, CBOs, communities etc. The training needs of these personnel differ. Accordingly, the IEC and training programmes have to be developed. The Bangladesh Red Crescent Society's (BRC) Cyclone Preparedness Programme aims to minimize loss of lives and property in cyclonic disasters by strengthening the capacity in disaster management of the coastal people. It covers 11 coastal districts and, approximately 3500 villages. The BRC and the

government jointly administer the programme. One of its key features is that it makes disaster preparedness part of the daily life of vulnerable people. Central to the programme are 32,000 village based volunteers, who are selected by the villagers themselves. They receive three days of training in preparedness and refresher courses every five years. This not only develops skills in warning, rescue and evacuation, but also keeps up the morale and commitment among volunteers and staff. They are equipped with basic warning equipment including transistor radio to monitor weather bulletins, newspapers and hand-operated, sirens to disseminate warning (British Red Cross, 2000).

2. Community Awareness

Community awareness forms the basic crux of present day disaster management. The prime objective is to raise the awareness levels, knowledge base of the community to make them alert, self-reliant and cope with the consequences. People have coping strategies that they derive from the past experience. The communities possess the capacity and strength arising out of previous experiences in facing emergencies. This needs to be harnessed. The awareness is required to enable the community understand the impact of disaster, efforts they need to put to reduce its impact and save their lives and property.

The awareness should make the community conversant about:

- Operationalizing of preparedness or response or emergency plan prevalent at the local or community level.
- Adhering to special instructions about warning and evacuation given during disaster.
- Getting conversant with evacuation procedures, routes for evacuation and necessary things to be taken.
- Providing help to vulnerable sections such as women, children, old, physically challenged etc.
- Mobilizing other community members in tackling the crisis.
- Distributing relief.

Community awareness in case of cyclone-prone areas can include providing information about construction of wind resistant houses, avoidance of loose material such as metal or aluminum

sheets, which can be blown away, use of battery operated communication system etc. Similarly with regard to flood mitigation, it can include use of water resistant material for flood resistant houses, construction of dykes and embankments, afforestation in catchments areas etc. Mass, awareness programmes for drought management can include dry land farming, farm forestry, pasture land management, soil and water conservation techniques. Under the Urban Earthquake Vulnerability Reduction Project, (UEVRP), several initiatives are being taken by the state governments. The government of Uttaranchal in association with the Disaster Mitigation and Management Centre (DMMC) has brought out a 'Disaster Preparedness Calendar' focusing on Disaster preparedness measures for circulation in the city. The pictorial illustrations list the preparedness steps, which can be taken by individuals, family and communities.

Community awareness activities need to be so designed to have a bearing on the community by imparting skills and practical knowledge and bringing change in their attitudes. The strategies adopted for generating awareness need to be chosen keeping in view the nature of hazards, socio-economic profile of the community, vulnerabilities they are exposed to and so on. Pursuance of different ways and strategies in IEC and training is the responsibility of government, information dissemination agencies, NGOs, other CBOs along with the community.

Church's Auxiliary for Social Action (CASA) has set up a Disaster Mitigation Training Centre at Banarnalipur in Khurda district in Orissa. Over a year it provides a seven-phase training programme to its members, including disaster awareness, Disaster Mitigation Task Force formation, capacity building, income generation programmes etc. On completion of training, the members set up Disaster Mitigation Task Forces in their villages, which in turn run training programmes on disaster warning and rescue and evacuation. Villagers are also taught about first aid and medical help, sanitation, relief operations, carcass disposal and are given counselling. They are also taught to draw up village contingency plans and to develop procedures for assessing damage (Palalcudiyil & Todd, 2003).

3. Information, Education, Communication and Training: Components and Strategies

Information Education and Communication can reach the community through a variety of means. It can be through:

- a) Educational programmes.
- b) Media.
- c) Preparation and distribution of material such as brochures, pamphlets and posters that contain information about the disasters, do s and don'ts.
- d) Orienting through training, lecture demonstrations, practice alerts, and mock drills.
- e) Group discussions and talks.
- f) Street plays, folk' songs.

In conveying messages, local culture has to be taken cognizance of local dialects, vernacular language need to be used communicating the message. Any message or information to be conveyed is to be rooted within the local culture. Posters also can be displayed at public places, community meeting places etc. They need to convey messages that also indicate the responsibilities, and actions needed on the part of family and individuals.

IEC strategies have to address the community needs and enable them to understand the benefits of long-term disaster mitigation. Education has a key role in planning and implementation of strategies at pre during and post-disaster phases. Disaster education has to take into cognizance of the contemporary knowledge and skills about disaster reduction, preparedness and mitigation. The goal of any IEC strategy is to reach the community at the remote level and make them alert and aware. It attempts to enable the community organize itself to tackle a crisis, minimize the losses, and control panic to facilitate smooth rescue and relief operations.

Disaster education can go a long way in developing knowledgeable and aware communities. It needs to emphasize upon the various types of disasters, hazard assessment, risk analysis, contingency planning, warning system, mapping disaster zones, disaster coping mechanisms etc. Educational institutions can contribute towards generation of knowledge in the area of disasters, develop expertise in specific types of disaster and impart training - in different fields.

Disaster awareness education in educational institutions has the following advantages:

- It provides contemporary and relevant information about local environment.
- It prepares for participation in both pre and post-disaster activities of the affected/ vulnerable community on a wider scale.
- It contributes past experience with recent developments in technology to combat disaster.
- It helps to develop effective domain abilities for collective work as successful disaster management efforts involve an effective teamwork and spirit.
- It promotes informed decision-making in the event of a disaster. (NCDM, 2001)

Disaster education needs to be an integral part of the school curriculum and also at the university level. A modest beginning has been made in this direction as certain areas relating to disasters and their management are introduced in the school curriculum. The Central Board of Secondary Education (CBSE) has initiated the process of imparting knowledge to the students by incorporating material on disaster management for Class X. This provides practical knowledge with regard to managing disasters with emphasis on first aid, search and rescue skills, disaster-resistant construction practices etc. At the undergraduate levels and above, some universities and institutions are working in the area of disaster management. These include the Universities of Roorkee, Chennai, Indian Institutes of Technology (IITs), Yashwant Rao Chavan Academy of Development Administration, Pune, National institute of Disaster Management, New Delhi, etc. IITRoorkee offers a Course on earthquake engineering, considered, to be the first such course introduced in India. IIT Kharagpur has included tsunami in the M-Tech Course in computational seismology. Other IITs are also starting M-Tech in safety engineering and disaster management.

The National Core Group on Earthquake Risk Mitigation set up by the Ministry of Home Affairs constituted two committees for drafting the curricula/modules on earthquake engineering for inclusion in the undergraduate engineering and architecture course. The first committee comprising All India Council of Technical Education (AICTE) and Indian Institute of Technology (Kanpur), prepared a model curricula for undergraduate engineering

courses and the second committee, AICTE, IIT Kanpur and Council of Architecture (COA), prepared a model curricula for undergraduate architecture course. The suggested modules were reviewed by the National Core Group and endorsed the curriculum prepared by the COA for architecture courses and AICTE curriculum for engineering courses. The courses broadly shall include elements of engineering, seismology, seismic design of structures, restoration and retrofitting, building safety, theory of vibrations etc.

A Certificate Programme in Disaster Management (CDM), the first of its kind in the country is offered by Indira Gandhi National Open University (IGNOU) through distance mode. The programme familiarizes the learner with the nature and typology of disasters, disaster preparedness, relief measures, community awareness etc. The Post Graduate Diploma in Disaster Management (PGDDM) which you are presently pursuing attempts to provide a comprehensive view of disaster preparedness, mitigation, response, rehabilitation, risk assessment and vulnerability analysis. The major objectives of the Programme are to generate community awareness, and skills for disaster preparedness, provide knowledge for effective disaster response in various emergency situations etc.

Disaster management is an area that requires the efforts of several types of personnel such as police, doctors, nurses, veterinarians, agriculturists, engineers etc. Training has to be imparted to them to deal with wide range of policy planning, organizational and operational measures related to disasters. There are NGOs who play an important role of establishing an efficient communication link between disaster management activities and the community. There are institutions such as Disaster Mitigation Institute (DMI), Ahmedabad, Red Cross, Cooperative for Assistance and Relief Everywhere (CARE), and OXFAM etc., which impart training to several functionaries. One example is that of a general awareness raising campaign in the International Decade for Natural Disaster Reduction (IDNDR) implemented within the United Nations Department of Humanitarian Affairs. IDNDR initiated a global awareness campaign called "Learning about Natural Disasters: Games and Projects for you and your Friends" which is designed to help initiative a "culture of

prevention" among children in vulnerable communities. The booklet is both general and international in scope and approach, as it includes materials from any countries and different cultures. The booklet includes information about the types of natural disasters and the accompanying risks associated with them. With a colorful format and simplified illustrations, it provides ideas for activities that children can do in their classrooms and communities to reduce risks. Activities described in the booklet include community mapping exercises, a "preparedness game" etc. (Commonwealth of Learning, 2003).

The policy makers, and government officials need to be trained in managerial planning, preventive and preparedness aspects. Professionals are to be acquainted with emergency and crisis management. Communities are to be oriented about risk awareness, reduction, preparedness, mitigation, traditional knowledge and practices. Any training or IEC activities need to be multifaceted about the functions and skills being imparted which include preparedness, planning, coordination, logistics, emergency management, recovery, rescue operations etc. Any training programme has to keep in view the requirements of the country, the disaster threat, national policy on disaster, and the target-group. Presently, there appears to be lack of coordination in this area. Training must evolve as a continuous and systematic process aiming at developing the competence and expertise of the concerned target group.

Learning is the essence of training and should emphasize experience, action and reflection. There is need to emphasize action-oriented training. Training programmes should enhance the ability of the target group to use the skills and information imbibed, to fulfill specific tasks within a disaster -management framework (Sahni & Dhameja, 2001).

The Panchayati Raj Institutions can play an important role in IEC activities. Being from within the same geographical area, they can identify the vulnerable groups, work with them, enable people to identify their own needs and problems, and evolve ways of resolving them. The State Training Institutions in the country need to focus on disaster management as one of the sectoral themes in their training programmes. The training areas can be disasters and development, assessment of community

needs and resources, community organization and resource mobilization, coping mechanisms etc.

Community teams such as Village Task Force, Disaster Task Force, can serve as important nodal agencies for dissemination of information. In Andhra Pradesh, communities have formed their own organization i.e., village task force, from amongst themselves. The Disaster Task Force members can be trained by the local NGOs, Gram Panchayats and other local officials in warning dissemination, evacuation of people and livestock, storage and distribution of food and fodder, organization of community kitchens, clearance of debris, helping the community and administration in damage assessment etc.

Training came to the rescue of fisher folk of Saamiyarpettai in Chidambaram taluk of cuddlier district of Tamil Nadu. The government provided training in rescue operations to the fisher folk. Due to this the members of local disaster relief committee were able to save nearly one hundred lives. The rescue operations were carried out promptly and all the injured survived. Preparedness was emphasized in the training. The women were more enthusiastic in learning the methods demonstrated by the Fire Department Personnel. Groups were also trained in shelter management and in distribution of relief materials (The Hindu, 2005).

Mass media, which include newspapers, television and radio have an important role in information dissemination. They can enable the people comprehend the nature and consequences of disasters in a right perspective. But media have to be proactive rather than reactive. They need to create awareness amongst the masses to make them familiar with warning system, take appropriate measures towards safety and evacuation. Local press, especially can be active in providing information about:

- Community needs and resources;

Evacuation to safer places;

- Do's and Don'ts in a situation;

Relief shelters, health and sanitation;

- Programmes run by government, NGOs and international agencies.

Media have to play an active role not only during crisis by providing real picture of the scenario, but also in the post-disaster phase

especially the rehabilitation. They have to go beyond the provision of statistics or description of damage. They need to be analytical to bring out the real reasons responsible for disaster.

4. Utilization of Traditional Knowledge

Local communities generally develop their own coping mechanisms' and strategies' to cope with disasters. Traditional wisdom of the people needs to play a key role. This generally is not taken into consideration. Local people tend to have a lot of insight into disaster. For instance, in cyclone-prone areas, the continuous blowing of wind from the east, a strange rather thundering sound from sea for two three days indicates the striking of a cyclone. In case of floods, some people looking at the colour of clouds, their formation, and movement indicate the onset of disaster.

In the recent tsunami, there have been reports of fishermen of Pondicherry coming across small fish with reddish tails, in their trawler nets called Red Bait, the sighting of which has always preceded a natural calamity. It is a fisherman's instinct. The fish which measures some 12 cm when fully grown and is edible, is a deep water fish that surfaces during 'upwelling' — a phenomenon of water at the bottom coming up. It has been said by the Central Marine Fisheries Research Institute (CMFRI) that sighting of the Red Bait should be reported to the meteorological department and other agencies dealing with disasters (The Hindustan Times, 2005).

Traditional knowledge, if properly tapped and documented can contribute a great deal in the area of disaster. The tsunami which had hit Sumatra in March, 2005 triggered fear amongst the fisher folk in coastal district of Kerala. The fisherme noticed some strange behaviour of the sea as though it was being churned by some strange activity. The sea subsided within an hour and the fear vanished from the coast (The Hindu, 2005).

According to M.S. Swaminathan, Chairman of the National Commission on Farmers (NCF), the village knowledge centres will be set up. Under the Jansetji Tata National Virtual Academy, and from each village, a man and a woman will be trained and elected as a fellow of the academy. The Commission will train the local communities in disaster preparedness and management (The Hindu, 2005).

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communication can be achieved through voluntary innovations even in difficult and inaccessible areas during disaster situations. For example, a long pole can be used to serve as a flag mast erected in a flood arid cyclone prone area where there are no radio or television to serve as a means of warning dissemination. One red flag fluttering on the mast may mean that the disaster may occur, stay alert. Two flags on the same mast may mean that the disaster is going to occur, prepare to evacuate. And three flags on the same mast meant that the disaster is almost there so one has to evacuate. This mechanism can prove very effective in remote vulnerable areas and can become the central focus of attention of the local community.

5. Conclusion

There is no doubt that it is the community, which not only suffers, but also actually copes in times of disasters. Others provide only a helping hand. For a natural disaster such as drought, which sets over a time and its manifestation is known from the beginning, it is necessary for the community to understand the dimensions and prepare for it. The word community is very loosely used and it encompasses at times everyone who is working for mitigation and relief. However, in right spirit, the community has to be the people in the village. It would, therefore, be a challenge as to how to support the people themselves and what situational mechanisms will be required and what will be the relationship of the community and the Panchayati Raj institutions and to what extent, these two will converge, and merge to be a distinct and identifiable self support system. The empowerment of communities through Panchayati Raj Institutions (PRIs) both administratively and financially without taking away their initiatives of self reliance is also a challenge. The administration, through its sincere efforts has to ensure that the morale of the community is not dampened. There is a need for constant counselling, guidance and advice i.e., information, education and communication. The strengthening of disaster control measures has to be attained through the participation on the part of the people.

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