Development of an Integrated Disaster Management System in India: Importance of Reliable Information

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Disaster profile of India

The Indian sub continent has been exposed to disasters from time immemorial. The increase in the vulnerability in recent years has been serious threat to the overall development of the country. Subsequently, the development process itself has been a contributing factor to this susceptibility. Coupled with lack of information and communication channels, this had been a serious impediment in the path of progress. India's vulnerability to various disasters has led to mounting losses year after year. Mammoth funds were drawn to provide post disaster relief to the recurring victims of floods, cyclones, droughts and the less suspecting landslides and earthquakes.

Considering the vast area of the Indian landmass, around 57% of the land vulnerable is to Earthquakes, 28% is vulnerable to Droughts, 12% is vulnerable to Floods and 8% of the land is vulnerable to Cyclones. Adding to this is the susceptibility of various man made hazards. Figuratively speaking, around one million houses are damaged annually, compounded by human, economic, social and other losses.

Global efforts

The United Nations in 1989 declared the 1990s as the **International Decade for Natural Disaster Reduction (IDNDR).** Disaster reduction and coping with disasters touch many areas of human life and society constituting a core task of sustainable development. It is therefore with great concern that we see that damages caused by natural disasters are on the rise world wide, and that more and more people are threatened by the forces of nature. There are many reasons for this:

- An irresponsible approach to the environment
- The proneness of mega-cities to grow out of control
- The population growth

Coping with disasters entails more than making technologies available. The major UN conferences on the environment and development (Rio de Janeiro, 1992) and on the reduction of natural disasters (Yokohama, 1994) have made us all aware that natural disasters are not only the consequence of natural events, but are also and especially caused by incorrect human conduct. IDNDR helped set the connection between disaster proneness and the environment, society and the economy and achieve a contribution towards risk awareness. The **Yokohama Strategy** also recognised the role of applied scientific knowledge and awareness in saving communities. In fact, the importance of reliable information was the core idea of **International Strategy for Disaster Reduction** and the two conferences on early warning systems held in **Postdam** and **Bonn** in 1998 and 2003 respectively.

Indian efforts

After the devastating earthquake in Gujarat, The National Committee on Disaster Management (NCDM) was constituted under the Chairmanship of Prime Minister after the devastating earthquake in Gujarat. Its mandate included suggestion of suitable legislation and institutional measures to deal with calamities in future. It was envisaged that the Committee shall have the services of a working group which would provide various inputs including background material and suitable analyses to enable the Committee to formulate suitable recommendations in the matter.

On the recommendation of Vice Chairman, NCDM-PM, and approval of the Prime Minister, the HPC was subsequently converted to the Working Group on Disaster Management. The Working Group

prepared an Agenda note highlighting some major issues in disaster management and identifying some important institutional, financial and legislative measures. The **National Disaster Management Policy** stated the importance of reliable, efficient information exchange between all the stake holders. It focussed on the following aspects,

- Increase of networking
- Resource and knowledge sharing
- Blending science and technology with the ongoing development process
- Efficient linkages with other Disaster Management Systems
- Adoption of multi hazard approach within the paradigm of prevention, mitigation and reduction

It clearly states the importance of early warning as follows,

"…Upgradation of advance warning systems must take place in tandem with building up the community's own capacities…"

Going on to further elaborate,

"…Development of an Early Warning System that will be disseminated to all related organizations, administrative mechanism at all levels and the community is imperative."

The National Policy also stressed the need for the preparation of detailed maps because easy availability of precise maps of appropriate areas enhances greatly the preparedness measures for future disasters. It is to be noted that the Working Group covered certain areas that were not in the mandate of the HPC.

The High Powered Committee and the Working Group together lay down the foundation of the status of disaster management in the country along with the roadmap for future with strategically laid milestones. The cultures which are explained subsequently signify the incorporation of reliable information in each step of planning. These documents encompass all disasters and all aspects of Disasters from which the nation ails. Thus they plan to incorporate all stakeholders and vulnerable groups vertically as well as horizontally.

The new policy of the indian government

Working closely within the IDNDR's framework, the Govt. of India, in 1993-94, implemented a central sector plan Scheme on Natural disaster management whose main focus was on capacity building and human resource development. As a part of this programme, ***National Centre for disaster Management (NCDM)*** was set up at national level while at state level disaster management cells were also established in ATIs. NCDM was being considered as a nodal center for human resource development in the country.

With so much holistic development taking place, there was an urgent need for establishment of a separate Institute at national level for Human Resource Development in the field of disaster management. The High Powered Committee on Disaster Management had also recommended for establishing a separate institute at national level, which will be regarded as Center for excellence in Human Resource Development. Keeping this in view, the ***National Centre for disaster Management (NCDM)*** has recently been re designated as the ***National Institute of Disaster Management (NIDM)*** to meet the multi-pronged need for research, training, education and institutional co-operation. Still being in the capacity building stage, the Institute will focus on disaster preparedness and mitigation through a coordinated efficient response system. As no such institute exists in South Asian region, the importance of NIDM assumes significance, which would also serve as a nodal Regional Center for research, consultancy and training in the field of disaster management and mitigation.

NIDM is envisioned as a self-sustaining and self-contained institute with a multidisciplinary and multi-hazard approach to training and research in disaster management. It will assist the National and State Governments in building their capacities and also in planning for disaster preparedness and mitigation. It will have linkages with governments at central, state, district and local levels, international aid and development Agencies, Bilateral and multilateral agencies, Research/academic Institutions, Corporate sector, NGOs, Community based organizations, community etc.

The NIDM has been envisaged to house an Alternate ***Emergency Operations Centre (EOC)*** as well, which can take over the functions of the National EOC in cases of emergency. The alternate EOC will also be used for simulation and hands on training purposes. An advisory committee will guide the overall functioning of NIDM, which will be represented by Govt. of India, NGOs, and Technical/Academic Institutions etc.

India is embarking on a process of increased activity in the disaster management sector from all the levels of the government. Certain developments like the shift of the NDM Division from Ministry of Agriculture to the Ministry of Home Affairs (which is headed by the Deputy Prime Minister) has helped the efforts being taken on this front and further expedited the process. Reshuffling is being done in administrative structure of disaster management in the country. The **Ministry of Home Affairs** is designated as nodal Agency to coordinate all types of disasters except drought which continues under the Ministry of Agriculture.

The **India Disaster Resource Network (IDRN)** has been initiated by the Ministry of Home Affairs in collaboration with the UNDP. The primary focus of the network is to systematically build the India Disaster Resource inventory as an organised Information system for collection and transmission of specific equipments and expertise database which will help key decision makers and disaster managers in the government to make quick decision in mobilising equipments and skilled human resources during emergencies.

The High Powered Committee also focused on the need of ushering in new cultures for the holistic development of the country. In totality, these zeroed on the involvement of Panchayati Raj Institutions, Urban Local Bodies and the NGO's for a complete, coordinated effort. These are,

- Culture of Preparedness
- Culture of Quick Response
- Culture of Strategic Thinking
- Culture of Prevention

Culture of Preparedness

Preparedness Planning based Initiatives proposed the following:

- Preparedness Plans at all levels
- Plan Updation Week recommended in the last week of April every year.
- Plan Rehearsal Week in the first week of May.
- Participation of all concerned in this national exercise, especially the NGOs and community based organisations.

Culture of Quick Response

The Trigger Mechanism concept used as an "emergency quick response mechanism" which, when activated prior to or during a disaster event simultaneously sets into motion the required prevention and mitigation measures with minimum loss of time.

- Operation of Trigger Mechanism requires clear delineation of duties & functions including identification of key personnel.
- Adequate delegation to act in the first critical 24-48 hours without loss of time in planning or seeking clearance/approval/direction from superiors.
- Standard Operating Procedures (SOPs) are required to be evolved in meticulous detail for effective operation of the Trigger Mechanism.

Culture of Strategic Thinking

- Networking of Knowledge-based institutions and learning exercise should be encouraged for integration of:
  - Traditional and local knowledge (through PRI's)
  - Advanced scientific & technological information.
- The concept of Knowledge Network has been evolved in three parts and nodal institutions have been identified for these categories:

- Natural Disasters
- Manmade Disasters
- Biological Disasters

Culture of Prevention

- Disaster Prevention through Environmentally Sensitive Development Practices
- "Development that will protect from calamity, not become calamity itself"
- Sound understanding of Hazards, Vulnerability, Risks and Disasters.

Apart from this, BMTPC has recently compiled a national hazard zonation map compendium known as the **Vulnerability Atlas.** This atlas gives in detail the susceptibility of India and its states. It also demarcates the areas which are prone to various natural hazards along with the grading of expected severity. It also explains the vulnerability of he type of construction in various parts of the state. This atlas has helped in reinforcing the ongoing efforts of disaster management in the country.

Subsequently, many states have formulated their own disaster management policies which focus on the need of incorporating efficient communication and warning systems in tackling disasters. These states include Gujarat, Madhya Pradesh and Orrisa with the plans of a dozen states at the anvil. The State of Uttaranchal has its own disaster management ministry. The **Gujarat State Disaster Management Policy** solidly emphasizes on,

- Effective interagency coordination and cooperation
- Capacity building
- Development, sharing and dissemination of Knowledge amongst NGOs, private sector, implementation agencies and the community
- Development of repositories of Information
- Establishing communication and technology networks
- Knowledge management

It has to be understood that the whole process has a strong undercurrent of the importance of quick, efficient and reliable information which forms the basis of these cultures. The constitutional and Institutional and Legal amendments brought in its wake are in tandem with these ongoing efforts. Each and every aspect of these cultures expounds the enhancement of reliable information, thus aiming at a holistic and integrated development effort. Even bringing the education sector under its umbrella by way of imparting disaster awareness to the students of Class VIII/ IX, as well as incorporating the awareness generation programme in the Open Schooling, the Government has very seriously amalgamated its efforts towards a better future.

In the present scenario, there is not a lack of information but rather the lack of its access. The advancement in Information Technology in the form of Internet, GIS, Remote Sensing, Satellite communication, etc. has led to a cornucopia of available information, which would greatly help in planning and implementation of hazards reduction. Conscious endeavour to simplify this knowledge will greatly help in the long run. Let us hope that these ongoing efforts, coupled with international cooperation and networking, may definitely help build a culture of prevention.

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