

2007

**ROLE OF URBAN LOCAL GOVERNMENT
IN DISASTER MANAGEMENT**

Seminar Report

(23 & 24 March 2007)

**Regional Center For Urban And Environmental Studies
Lucknow University Campus,
Lucknow.**

I - Introduction:

A two-day National Seminar on **Role of Urban Local Government in Disaster Management** was organized by the Regional Centre for Urban and Environmental Studies, Lucknow on 23rd and 24th March, 2007 at RCUES Conference Hall, Lucknow University, Lucknow. The Seminar was held under the joint auspices of the Ministry of Urban Development, Government of India, New Delhi and Department of Urban Development, Government of Uttar Pradesh, Lucknow.

The principal objectives of the Seminar were:

- i) to review the status, situation, dimensions and trends of disasters and their impact on development;
- ii) to examine role of government agencies in disaster mitigation and response;
- iii) to examine the role of NGO'S, community based organizations, and other stakeholders in disaster management;
- iv) to review the status of disaster management strategies;
- v) to discuss the scope and prospects of disaster mitigation planning;
- vi) to discuss institutional arrangements for urban risk mitigation;
- vii) to share experiences in managing disasters;
- viii) to suggest policy measures for disaster mitigation and response

II - Duration & Dates

The two-day National Seminar was organized on March 23rd and 24th, 2007.

III - Venue

The seminar was organized in the Conference Hall of the Regional Centre for Urban and Environmental Studies, Lucknow University campus, Lucknow.

IV - Boarding and Lodging

The boarding and lodging facilities to the outside participants were made available in the Trainees' Hostel-cum-Guest House of the Centre. All the participants were served working lunch besides two time mid-session tea/coffee and refreshments.

V - Inaugural Session

The seminar was inaugurated **Prof. R.P. Singh, Vice-Chancellor, Lucknow University, Lucknow**. In his inaugural address he talked about various types of disasters in Indian perspective and highlighted the role of urban local bodies, NGO's and educational institutions in disaster management. **Sri R.K. Chaturvedi, Director (UD), Ministry of Urban Development, Government of India** in his presidential remarks said that disaster management needs multi-dimensional approaches and involvement of various stakeholders. He talked about the efforts of central and state governments in the field of disaster management. He also raised the issue of building bye-laws that should be implemented effectively by the state governments.

Earlier, **Prof. Nishith Rai, Director, RCUES, Lucknow** welcomed the Chief Guest and other distinguished participants. In his welcome address he spelt out the significant role of urban local government in disaster mitigation and management. He felt the need of strengthening urban local bodies in disaster mitigation and management through capacity building.

Sri S.P. Singh, Special Secretary, Department of Urban Development, Government of Uttar Pradesh, Lucknow discussed the emerging trends and patterns of urbanization and its implications on urban development. He said that there is wider scope for urban local bodies in disaster mitigation and management in the context of decentralized governance.

Dr. U.B. Singh, Joint Director, Regional Centre outlined objectives as well as details of the seminar. **Dr. A.K. Singh, Assistant Director of the Centre**, presented vote of thanks and **Dr. Richa Varmani, Joint Director of the Centre** was the Rapporteur of the session.

VI - Summary of Proceedings

Plenary Session

The seminar started with a Plenary Session where at the theme paper was presented by Dr. A. K. Singh. The presentation covered various aspects of disaster mitigation, and management. A copy of theme paper is appended at Annexure A. **Prof. J.L. Seth**, Former Professor, Department of Public Administration, Lucknow University, Lucknow and **Sri R.K. Chaturvedi**, Director (UD), Ministry of Urban Development, Government of India, New Delhi jointly chaired the session. **Dr. Urmila Bagga**, Joint Director, RCUES was the Rapportuer.

Dr. A.K. Singh highlighted the various dimensions, perspective and trends of natural as well as man made disasters in India. He also discussed the legal and institutional framework of disaster management in India. Dr. Singh emphasized on the vital importance of training, communication, and participation of various stakeholders in response mechanism and managing disasters. He also pointed out several issues for the deliberations and discussions during the various technical sessions.

Sri B.P. Singh, I.G. (Fire Services), Government of Uttar Pradesh raised the issues of high buildings in the cities, community involvement and lack of coordination among various concerned agencies for managing the disasters. He pointed out that parameters for buildings have been laid out in the National Building Code where in builders were required to obtain a "No Objection Certificate" from Fire Department, but sadly this provision was not included in the Disaster Management Act, 2005. Although this provision was again included in the Act on the direction of Hon'ble High Court but development authorities still have passed their bye-laws which are contrary to the National Building Code. Such an attitude clearly indicates the strong influence exercised by strong building mafia on the policy makers. While referring to the establishment of Disaster Management Authority at the state level on the pattern of national authority, Sri Singh pointed out that Government of India has sanctioned Rs. 456 crore for strengthening the fire services in the state of Uttar Pradesh. **Sri R.K. Chaturvedi**, Director (UD), Government of India, Delhi informed the house that model building bye-laws have been prepared by the Ministry and circulated to the state governments for their opinion and comments but so far not a single response has been received from

anywhere. **Prof. R.P. Singh**, Indian Institute of Technology, Kanpur stated that we need to change our attitude towards the programme implementation and society at large to obtain the desired objectives.

Summing up the session, Prof. Seth remarked that although science has made numerous advancements in every sector, nature always over-rides the human advancements. Problems of coordination have always been there due to a variety of factors but we need to strengthen our organizations in every sector. Further, he suggested that preparedness and care both need to be built up in the management of disasters.

Technical Session I

The session was devoted to "**Planning for Disaster Mitigation**". It was jointly chaired by **Prof. S.K. Singh**, former Professor of Department of Public Administration, Lucknow University, Lucknow and **Prof. Binayak Choudhary**, Assam Administrative Training College, Guhawati. The rapporteurs of the session were **Dr. Rajeev Narayan**, Deputy Director and **Dr. Alka Singh**, Research Assistant, RCUES, Lucknow.

Prof. R.P. Singh in his paper on **GIS and Remote Sensing Applications in Disaster Management** highlighted the technological dimensions of disaster management in Indian continent. He said that role of GIS and remote sensing applications in data analysis and microzonalization of vulnerable areas is of paramount importance. He showed digital maps and critical areas of natural disaster prone zones of India.

Dr. Dhruv Sen Singh in his presentation on **Flood Mitigation in Gangetic Plain in India** said that Ganga plain is made up of alluvium and has been formed by the deposition of sand, silt and clay by various river systems during high and low discharge periods. In the Ganga plain the main reason of the shifting of the river channel within the valley is the alluvium. Thus, the trend of the river channel shifting, association and percentage of sandy, salty and clayey unit slope gradient, erosion pattern discharge of the river should be analyzed in a proper way to save the human population and settlement from flood and catastrophic lateral erosion by the river.

Sri K.K. Verma in his paper on **Electrical Disaster Management: An Essential Requirement** highlighted the preventive measures for managing electrical disasters. He said that earthing or grounding is an integral part of an

electrical disaster safety. He called for using maintenance free earthing which ensures stable and consistent earth resistance around the year.

Mr. Pawan Kumar in a joint paper on **Tsunami Mitigation and Preparedness Measures: Andaman & Nicobar Islands** said that in India, the coastal regions of Gujarat and Andaman Nicobar Islands are vulnerable to Tsunami. After the December, 2004, Tsunami, TCPO, Ministry of Urban Development, Government of India took up the preparation of lay out plans for permanent settlements at 72 locations. The layout plans are based on the cluster concept and include provisions of rain water harvesting pits, garbage dumps, burial grounds etc. They are of the view that tsunami preparedness requires a long term and sustainable plan of action. Existing zoning and other regulations need to be revised and updated in context of Tsunami.

Dr. Ritu Jain in her paper on **Planning for Prevention and Mitigation of Disasters** talked about types of disasters, effects of disasters, and disaster mitigation strategies. She is of the view that public participation, community awareness and implementing the new technologies can give a new dimension to the environment and prevent the nature and save the human life on this planet.

Ajai Chaurasia, S.K. Agrawal and S.K. Singh in their paper on **Seismic Vulnerability Analysis of Buildings in Delhi** said that history of earthquakes demonstrates vulnerability to seismic hazards. Devastating earthquakes in urban areas causing heavy economical losses in terms of loss of life, property, disruption of services and damage to environmental have been of great concern. The experiences have prompted to carry out in depth studies and come out with solutions and policies which will go a long way in minimizing the damages caused by seismic ground motions. In this context, seismic microzoning of urban areas has assumed new dimensions, which encompasses assessment of seismic vulnerability of existing building stock as one of its component.

Dr. P.K. Banta in his paper on **Disaster Management and Mitigation** has elaborated concept of disasters, types of disasters, historical account of natural disasters in India and institutional arrangements for disasters. He is of the view that preparedness, prevention, mitigation and developing new areas of technical expertise are some of the major concern for disaster management.

Prof. G.R. Krishnamoorthy and Prof. Ravindra Deshmukh in their joint paper on **Disaster Preparedness and Management: HRD Dimensions**

said that human resource development strategy occupies a vital importance in disaster management. The international agencies have also recognized the crucial importance of HRD not only as a strategy but also as modus operandi for tackling the disasters and rehabilitating the disaster victims. They are of the view that HRD is a process of capacity building in human beings. It is a process of imparting to and equipping the human being with certain skills, techniques and competencies so as to transform them into better performing human resources.

Technical Session II

The session was devoted to **Legal Framework for Disaster Management**. The session was jointly chaired by **Prof. R.P. Singh**, Department of Civil Engineering, Indian Institute of Technology, Kanpur and **Prof. K. S. Padhy**, Berhampur University, Berhampur, Orissa. The rapporteur of the session was **Dr. Anjali Mishra**, RCUES, Lucknow.

Dr. S.K. Agrawal and Dr. Ajai Chaurasia in their paper on Assessment of Seismic Vulnerability of Existing Building Stocks maintained that the damage to built environment during recent earthquakes in India has demonstrated the need for seismic assessment that is capable of predicting the consequences of earthquakes. The collapse of man made engineered and non-engineered buildings during an earth quake is the chief contributor to the loss of lives and injuries to the people. Vulnerability Atlas of India, states that there are about 11 million seismically vulnerable houses in seismic zone V, while the corresponding figure for seismic zone IV is 50 million. In all, there are about 80 million building units in India which are vulnerable and pose unprecedented risk.

Ms. Rani Sahay in her presentation on Role of National Disaster Management Authority in Disaster Management in India highlighted the legal and institutional framework for governance of disasters in India. She talked about the efforts made by the Authority in the direction of disaster mitigation and management. She informed the house that Government is preparing National Disaster Policy for various kinds of disasters. She also said that state Governments are responding well in the direction of disaster management as well as Disaster Management Act, 2005.

Mr. Anil Kumar in his paper on An Overview of Urban Earthquake Vulnerability Reduction Project said that 38 cities of India have been selected

for Urban Earthquake Vulnerability Reduction Project and 6 cities are from Uttar Pradesh alone. The project envisages awareness generation, development of preparedness and responsive plans at the community and administrative levels, development of technological regime and capacity building through knowledge networking and organizing training programmes.

Dr. Sudhakar Shukla et. al. in their presentation on **A Perspective of Space Borne Technology in Flood Mapping and Assessment of Damage in Flood Prone Areas** highlighted the role of GIS and remote sensing technologies in assessment of flood damage in India. Dr. Shukla talked about the use of new technologies in microzonation of vulnerable areas and assessment of damage due to floods. He said that digital mapping is imperative in order to assess the damage of flood.

Mr. Neeraj Kumar Singh and Mr. Apoorv Joshi in their paper on **Apada Prabandhan Ka Etihashik Vishleshan Aur Vartman Sandarbh Main Tulnatmak Adhyay** have presented an historical account of disasters and their management in India. They are of the view that fall of Indus Valley Civilization was due to ecological disasters. During ancient period, efforts were made for disaster mitigation and management. They are of the view that due to collapse of dams and construction of water dams in the vulnerable areas, the magnitude of natural hazards has increased because of the undue pressure on Indian Plate.

Mr. Ajai Pratap Singh and Mrs. Vijay Pratap Singh in their paper on **Bharat Mein Apada Prabandhan Karyakram** have discussed various stages of disaster management. They also elaborated the various programmes for disaster mitigation and management in India. In these programmes National Flood Mitigation Project, Urban Earthquake Vulnerability Reduction Project, DPAP, Landsliding Mitigation Project, National Cyclone Mitigation Project and Disaster Risk Reduction Project etc. are included. They are of the view that effective implementation of these programmes calls for community participation.

Sri R.K. Chaturvedi in his paper on **Role of Urban Local Government in Disaster Management** highlighted the role of decentralized governance in disaster management. He said that Disaster Management Act, 2005 has been enacted which provides the legislative framework for disaster management though establishment of Disaster Management Authority at national level with provision of Executive Committee at national and state level as well as

Advisory Committee at the district-level. The Act is also providing for specified functions at the local Authority level as well as guidelines for preparation of Disaster Management Plans.

Technical Session III

The session was devoted to **Disaster Response, Rehabilitation and Reconstruction**. The session was jointly chaired by **Prof. Ravindra Sharma**, Department of Public Administration, Rajasthan University, Jaipur, and **Sri R.K. Shukla**, Deputy Director (Planning and Policy), AIR, Government of India, New Delhi. The Rapporteur of the session was **Dr. Padma Iyer**, RCUES, Lucknow.

Prof. R.D. Singh in his paper on **Strategic Planning Perspective for Urban Disaster Management in India: Basic Issues and Strategic Framework** maintained that the perception and cognition of disaster in India needs to be viewed in terms of the evolving modern industrial and globalizing economy and urbanization pattern around the coastal regions in India. The impact of geotechnical processes and emerging disaster zones along the coastal and Himalayan and Sub-Himalayan regions have a correlation with the increasing incidence of earthquakes and cyclones. He is of the view that the urban life and economies are the most vulnerable not only due to the lack of awareness of the larger segments of the urban population of the environment, but also due to failure of governments at local and regional levels in evolving the institutional framework for disaster forecasting, awareness building among the people and preparedness and mitigation plan. Therefore, strategic planning is imperative in disaster mitigation and management.

Dr. S.P. Singh et. al. in their Paper on **Regional Planning for Fire Prone Zones of Betul Forest Division Through Community Participation** have discussed about application of regional planning for fire prone zones of Betul Forest through community participation. They are of the view that community involvement is essential for effective planning. The community has their own plan to manage fire prone zones with their traditional and indogenous wisdom along with scientific approach.

Prof. Ashok Kumar in his paper on **A Response to Disaster Management at Local Level** maintained that disaster risk management and mitigation demands special skills, potential practices, experiences and commitment on the part of people who are assigned with this task. The role of

urban local bodies is multifaceted depending upon the calamity. The local bodies are the key institutions to safeguard and protect its citizens. However, local authorities need to be well versed with the strategies and steps for disaster mitigation and management.

Prof. K. S. Padhy in his paper on **Disaster Management: A Case Study of Super Cyclone in Orissa** has discussed about kinds of disasters their impacts, cyclones and recovery of super cyclone in Orissa. He is of the view that natural calamities cannot be averted but what can be averted is the huge loss of life and property, if proper measures are taken well in advance. The Orissa State Disaster Mitigation Authority needs to set up its activities in the districts that are vulnerable to cyclone, droughts and floods.

Dr. N.K. More and Ms. Namita Dhuria in their presentation on **Challenges and Opportunities for Mitigation and Management of Urban Disasters** presented emerging perspective and trends pertaining to disasters in urban areas. They are of the view that vulnerability of earthquake, flood and fire has increased due to increasing housing and population density while the problems of drainage, solid waste disposal and depleting ground water are also causing concerns to the policy makers and administrators. Thus sustainable development paradigms are to be adopted in urban planning and development.

Mr. Achut Kumar Yadav and Dr. Shudhakar Shukla in their presentation on **Role of Local Administration in Awareness for Disaster Management** maintained that district administration has vital role in disaster mitigation and management. However, coordination and integration of efforts pose serious challenges. The community participation in disaster mitigation may be increased through involvement of civil societies and local bodies.

Dr. Roli Mishra in her presentation on **Economic Impact of Natural Disasters** highlighted the nature and impact of natural disasters such as cyclones, floods, land sliding, droughts, earthquakes, tsunami, and fires. She is of the view that resources should be mobilized for financing disaster mitigation and management. She also called for increased budgetary allocation on plan side for disaster mitigation and management.

Dr. Yogendra Tripathy in his paper on **Apada Prabandhan Main Shahkari Sthaniya Nikayon ki Bhumika** maintained that natural disasters in Bihar create havoc however; adequate efforts in disaster mitigation and management are not ensured. The role of local bodies in disaster mitigation and

management is found to be vital, however they lack of skills, knowledge and technologies to cope up with emerging situation of disasters.

Mr. Surendra Mishra and Mr. Sandeep Kumar in their joint paper on **Bharat Main Trivra Shahrikaren Se Utpanna Apada Aur Vikas** have discussed about urbanization and its implications on development. The increasing level of urbanization is causing increased vulnerability of natural disasters in urban areas. Disaster management requires strategic planning and policy for creating awareness and building capacity of local bodies and public at large.

Mr. Smriti Shukla in his presentation on **Formation of Emergency Support Function Teams for Pre, Post and During Disasters under District Administration** has talked about formation and strengthening of emergency support function teams in district. These teams are playing crucial role in overall disaster management. He is of the view the resources mapping, and vulnerability assessment in the district provide additional support in disaster mitigation and management.

Prof. Nishith Rai and Dr. A.K. Singh in their joint paper on **Disaster Response in India: With Special Reference to Tsunami Disaster** highlighted main elements of disaster management along-with the analysis of emerging perspective and trends of disasters in India. They are of the view that disasters are the ultimate list of emergency response capability. The ability to effectively deal with disasters is becoming relevant because of the increasing risk factors. Increase in population density, population shifts and increasing technology are some of the important factors for increasing risks, leading to disasters. Tsunami in India brought havoc however, overall impact on economy of India was nominal. They said that disaster response and preparedness is most effective when it is built into development programmes.

Dr. S.N. Singh in his paper on **Portyal of Frequent Drought as Disaster in India** said that frequent occurrence of drought in Asian continent specially in India challenges food security and agricultural sustainability even after acheiving impressive growth in the productivity and bio-diversity of agricultural crops. Drought is a natural phenonmenon unfolding disasterous consequences and relatively considered as damagerous event for living entities on earth.

Technical Session IV

The session was devoted to **Role of Stakeholders in Disasters Management**. The session was chaired by **Professor N. Ashok Kumar**, RCUES, Osmania University, Hyderabad while Rapporteur of the session was **Dr. A.K. Singh**, RCUES, Lucknow.

Dr. P.P. Balan in his paper on **Disaster Management in the Context of Decentralized Governance** presented a case of Kerala state. He elaborated intervention strategies for disaster mitigation and management. He is of the view that Kerala Panchayati Raj Act and Kerala Municipality Act provide for functions in the context of disasters, however budget allocations are seldom made for carrying out these functions. It is high time that the local self government institutions have to step into the disaster management measures both at financial and functional level.

Prof. R.B. Singh in his paper on **Local Governance in Disaster Management Through Vulnerability Analysis and Mitigation** said that disaster management is a multi disciplinary area, covering a wide range of monitoring, evacuation, search and rescue, relief, reconstruction and rehabilitation. It is also multi-sectoral administration and all stakeholders have important role to play. He is of the view that local governments should allot more funds to the slums and should take interest in the clearing and rebuilding of the slums. The urban risk reduction efforts are to be strengthened with active participation of local bodies and community at large.

Dr. Ashok Sanganel in his paper on **Urban Disaster Management in Karnataka: Some Issues and Options for Urban Local Government** discussed the perspective of urban disaster management in Karnataka. He analyzed the existing situation of urban disasters and their management by local governments. He reviewed the functional role of urban local government in disaster management in the context of Karnataka Municipal Act of 1965. He also talked about the functions of urban local government in the context of disaster management. He is of the view that urban local government has to take major responsibility in the area of disaster management. However, they need additional funds and resources.

Prof. Binayak Chaudhary in his presentation on **Disaster Management vis-a-vis urban Governance in Assam: Issues and Imperatives** highlighted the role of local governments in disaster management in Assam. He also raised issues for disaster management in the state. He

discussed in detail about the imperatives pertaining to different types of disasters occurring in urban India.

Sri R.K. Shukla in his presentation on Role of Radio in Disaster Management highlighted the role of media, particularly HAM radio in disaster mitigation and management. He is of the view that HAM technology in broadcasting is more important during disasters as most of the communication infrastructure fails due to disaster occurrence. The role of community radio may also be strengthened due to its increasing role in development in remote areas.

Mr. Shailendra Kumar and Mr. S.P. Pandey in their paper on Role of Media in Disaster Management said that communication is an important part of disaster prevention and management. They also talked about media effects, difficulties in working with media and strategies for coping up the challenges. They are of the view that media planning is imperative in order to promote the use of effective communication in disaster management.

Ms. Vandana Chauhan in her paper on **Integrated Relief and Recovery of 2006 Flood in Surat City** reviewed the role of All India Disaster Mitigation Institute, Ahmadabad, in disaster mitigation, response and recovery in the Asian Continent. She presented the analysis of Surat flood, 2006 along with its recovery and rehabilitation of victims. She is of the view that community based initiatives for disaster mitigation and recovery are imperative. However, disaster risk reduction measures have to be included in the recovery of process.

Dr. Ram Boojh in his presentation on Environmental and Ecological Disasters in India showed vivid pictures depicting climate change, environmental and ecological degradation. He remarked that urban ecosystems are being degraded due to unplanned development and massive urbanization. The degrading aquifers are to be rejuvenated in order to ensure sustainable water resources development in urban areas. Thus, rain water harvesting, scientific disposal of urban wastes and drainage should be ensured.

Dr. S.P. Singh in his paper on **Role of Local Government Agencies in Sustainable Urban Fire Management: A Case Study of Bhopal City** has analysed the case of Bhopal City in managing urban fires. He said that role of Fire Brigade in managing urban fires is significant, however, most of the Department lack proper equipments, tools and vehicles for fire fighting. Thus,

additional resources should be given to the Fire Department for managing urban fires. Importantly, fire services may be improved through equipping them and developing communication technologies.

Prof. Lipi Mukhopadhyaya in her paper on **Community Based Disaster Prevention** said that community based disaster risk management has emerged in the Asian countries. However a great majority of CBDRM, practitioners lack opportunities for skill development and capacity building. Thus, efforts should be made to strengthen community based disaster mitigation initiatives through capacity building and allocating more resources for them.

Dr. Sarvesh Kumar Jain in his paper on **Earthquake Disaster Waste Management** maintained that earthquake disasters can generate tremendous quantities of debris. Earthquake disaster waste removal is a major component of earthquake relief operations. Waste removal not only protects life public health and safety but also helps in speeding up the economic recovery of the affected region. He highlighted various aspects of earthquake disaster waste management.

Dr. Padma Iyer in her paper on **Role of Stakeholders in Disaster Management** talked about role of various stakeholders in disaster mitigation and management. She is of the view that the scale and intensity of natural and man-made disasters in our country make it imperative that a comprehensive approach be adopted in managing them at the country wide.

Dr. Vaibhav Khanna in his presentation on **Highway Trauma Care in India** highlighted the role of mobile hospitals and trauma care during road accidents. He is of the view that well equipped trauma care centres should be established in each district adjoining the highways.

Dr. Ram Babu in his presentation on **Trauma Care in U.P.** presented progress of trauma care in the state of Uttar Pradesh. He also analyzed the incidence and scale of road accidents in the state. He called for strengthening road safety measures in order to reduce road accidents and trauma care for recovery of road accident's victims.

Dr. S.P. Singh, Dr. M. Mishra and Dr. Aporv Mishra in their joint paper on **Role of Local Government Agencies in Sustainable Urban Flood Management** presented analysis of a case of Bhopal city. They assessed the role of government agencies in managing the flood and its recovery. They are of the

view that carrying capacity of drains should be increased in order to avoid situation of over flooding in the slum areas.

Mr. Rishikesh in his paper on Apada Prabandhan Main Sarkar ki Bhumika highlighted the programmes and schemes of disaster risk reduction and mitigation in India. He said that the institutional and legal framework for managing disasters have been spelt out, however, effective implementation of such programmes and schemes should be ensured.

Mr. Srinivas Rao in his presentation on Role of GIS and Remote Sensing in Flood Mapping and Recovery highlighted the role of new technologies in managing the floods. He also analysed statistical data and images to assess the impact of flood and recovery on the areas. He said that improved technologies should be used for assessing vulnerability of natural disasters in India.

Prof. Ravindra Sharma, Mr. Ashok Sharma and Mr. Kamal Tiwari in their joint paper on Apada Prabandhan Mein Samuday ki Bhumika stressed on role of community in disaster management. They are of the view that awareness, sensitization, preparedness of community towards various dimensions of disaster management is imperative. The role of community should be strengthened in planning for disaster mitigation as well as disaster response.

Special Session

With an aim to consolidate the proceedings and finalise the recommendations a special session was held. It was chaired by **Dr. Ram Boojh**, Professional Officer, UNESCO, New Delhi. The Rapporteurs of various technical sessions presented their brief reports and **Dr. A.K. Singh** presented draft recommendations. The participants approved the recommendations with suggestions and modifications.

Valedictory Session

The chief guest at the valedictory session was chaired by **Sri Anil Kumar Sagar, Director, Directorate of Urban Local Bodies, Government of U.P., Lucknow.** **Sri B.P. Singh, IG (Fire Services)** was Guest of Honour. Sri B.P. Singh called for strengthening decentralized governance for managing disasters. He also said that digital mapping for urban areas is imperative for assessing lesson risks and their mitigation. Sri Anil Sagar said that role of local

bodies in disaster management is limited, however, the decentralized governance has open vast opportunities for them. Coordinated efforts are needed during disasters while guidelines and buildings bye-laws are to be effectively implemented in urban areas.

Earlier **Prof. Nishith Rai** welcomed the guests. In his address he emphasized on strengthening the role of local bodies in managing urban disasters. The vote of thanks was proposed by **Dr. Richa Varmani**, Joint Director, RCUES, Lucknow.

The seminar was jointly Coordinated by **Dr. U.B. Singh**, Joint Director and **Dr. A.K. Singh**, Assistant Director, RCUES, Lucknow.

Recommendations:

- There should be a comprehensive 'Training Manuals' encompassing of situation analysis of disasters, preventive and risk reduction measures, resources and other vital information in order to provide capacity building to the manpower and representatives of local bodies/civil societies and other stakeholder agencies.
- Applications of GIS and remote sensing should be encouraged in order to effectively analyze and interpret the available data for risk reduction.
- Best practices pertaining to disaster mitigation and management should be documented properly and be disseminated in vernacular language and pictorial format to the community.
- Specific courseware should be designed and be implemented by all educational institutions to inculcate education and knowledge among the school going children, NGOs, and other government agencies.
- In order to create awareness and sensitization regarding risk, hazard, disaster mitigation and management among the community, the activities of different implementing agencies should be strictly monitored and responsibility should be entrusted to the concern agency.

- Coordination, knowledge net-working among the various stakeholders, researchers, academicians, and NGOs is imperative and should be updated on regular basis by a nodal agency.
- Effective implementation of building bye-laws be ensured by the state government and the role of local bodies in construction of buildings and infrastructure should be strengthened in order to promote earthquake resistant design and construction of buildings as well as to reduce risk.
- Training of artisans, masons and engineers about earthquake resistant measures should be imparted in order to propagate the principles of earthquake resistant design of buildings, which will immensely reduce the vulnerability of buildings and also the new construction which will come-up will be done by taking all the earthquake resistant measures into account.
- There should be provision of minimum 1000 temporary intermediate shelters as a infrastructure facility at District HQ, which can be put to the affected areas within 24 hours for the affected people, and after permanent settlement of affected people the same can be brought to District HQ.
- In order to reduce risk after earthquake strikes, it is strongly recommended that seismic microzonation studies of cities should be taken-up on high priority basis since due to shift of rural population to urban areas vis-a-vis bad quality of construction may lead to more loss of life and economic losses. Hence the study should be aimed at:
 - a) Identification of vulnerable buildings in the city and their retrofitting/strengthening thereof
 - b) Identification of safe public buildings such as school/hospital buildings to act as relief centers after disaster strikes
 - c) Identification of safe route to for approach to relief centers
 - d) Land use planning
 - e) GIS based microzonation map showing vulnerability of region.
- There is a large number of institutions with overlapping jurisdiction for implementing disaster management related activities. However, when a

disaster occurs there is no single institution that takes primary responsibility to coordinate and respond. Thus, there must be a coordinated effort in implementation of disaster management activities.

- Without a national and state level disaster management policy and a plan, the various projects involved in disaster mitigation, training and research and development institutions, other national level planning and implementing agencies and local authorities will not be able to derive the full benefits of these efforts.
- Integration of disaster mitigation in the university and other academic courses and resulting research outputs will come a positive impact on disaster mitigation efforts in time to time.
- There should be proper institutional arrangements for retrofitting the buildings according to building codes and investment for such assistance scheme.
- Building codes and related standards is a must for disaster mitigation. Uniformity in the bye-laws would result in several advantages such as case of updation, cost effectiveness of updation training, development of software for checking conformity etc.
- Building codes and related standards when integrated in suitably structured technological regime, would force owners, builders developers architects and engineers to design for disaster mitigation.
- Involvement of private sector in disaster mitigation and management is imperative. Similarly, creating conditions for the development of insurance markets, and encouraging the use of other risk reduction financial instruments are need of hour.
- Microfinancing for poor is imperative in order to reduce the vulnerability to natural hazards and recovery from disasters.
- There should be politico-administrative will for adopting sustainable development practices which ensure people centred and decentralized development paradigms.

- There is an urgent need for a specialized facility provides professional training, education and management skills to prepare competent, synergic and dedicated team for emerging services and providing relief to victims.
- Rehabilitation and reconstruction of disaster affected population and areas needs a revised approach with a focus of cultural diversity, local driven recovery, restoration and upgrading infrastructure and services, securing livelihoods, healthy environment etc.
- In order to ensure long term socio-economic and psycho-cultural rehabilitations, political and administrative support is to be considered essential. This requires a rehabilitation plan ensuring participation of local committed and trustworthy civil societies, proper and community at large.
- The rehabilitation should be acceptable to the community i.e. to be formulated considering the local needs of the people, their cultural and social traditions.
- Local level training of SHG's, Panchayats, local bodies, civil societies for raising public awareness and sensitization, civil defense, using sustainable practices of economic activities self reliance etc. may be ensured for improving disaster management capabilities in all phases such as planning, preparedness, mitigation, relief and rehabilitation.
- Modern technology coupled with information technology may be adopted for measurement of rainfall and run off data, flood fore-casting, warning system and remote sensing.
- Information technology may be used for dissemination of information on floods to various levels for flood management involving flood mitigation, evacuation and relief measures.
- Urban planning urgently begs a fundamental conceptual change, with a need for locating urban disaster management strategies in a holistic frame work.

- In disaster situations NGO'S and government need to involve community groups in risk assessment and vulnerability studies as a part of building a culture of disaster preparedness.
- A district-wise management information system is a vital necessity. Invaluable information may be obtained from reports, institutions, media and community.
- Setting up a National Fire Service Commission to suggest the reorganization of fire services to cope up with the challenges posed by technological advancement during fire occurrence is imperative.
- Road safety measures should be strengthened though involving community based organizations and orientation of trauma care on highways. Strict regulation of licensing to drivers of vehicles is also called for. The road safety measures may be funded through resource mobilization in the states.

**National Seminar on
Role of Urban Local Government in Disaster Management**

List of Participants

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