CHAPTER 10 -
SUMMARY OF FINDINGS IN FIELD SURVEY &
RECOMMENDATIONS

10.1 EVALUATION OF PERSONAL DATA
10.1.1 AGE PROFILE - The age profile of the sample survey synchronizes with the age profile
of an average Indian; hence to some extent the outcome of the survey coincides with the all India
projection.

10.1.2 EDUCATIONAL QUALIFICATIONS - The educational qualification of the sample
survey in the East Delhi District is low. To make them understand the nuances of disaster
management, the following changes may have to be adopted in preparing the training modules
for each segment of society and responders.

a) Basics in Disaster Management, like meaning of disasters, hazards, risks, vulnerability,
magnitude, intensity, etc.

b) The duration of the training will be more.

c) Use of visuals like pictures, sketches and documentaries to be included.

d) Adequate field training like mock exercises, demonstrations, visits to disaster
management related institutions, like India Meteorological Department, Fire Services,
Central Water Commission, National Disaster Management Authority, National Institute
of Disaster Management, etc.

10.1.3 PROFESSION OF RESPONDERS - The sample survey represented variety of
segments in the society from employed to students and from shop-keepers to home makers to
retired people. In view of differential representation, specific needs and the timings of imparting
training, capacity development modules will have to be made separately for employed class,
students, house wives and retired personnel.

10.2 STRUCTURAL SAFETY
10.2.1 UNAUTHORIZED COLONIES - As a large number of respondents in East Delhi
District are living in unauthorized colonies, they are more vulnerable to natural and man-made
disasters. The present unauthorized colonies need to be decongested first and then only

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regularized after providing them with proper civic services, like water, electricity, communication and sewerage. No new unauthorized constructions should be allowed and for this, the community reporting illegal happenings should be encouraged, with due security for the whistle blower/s.

10.2.2 CONGESTED & UNPLANNED COLONIES - Almost half of the respondents in East Delhi District were living in unauthorized colonies which are unplanned and congested, making them more vulnerable to earthquakes and flood disasters. East Delhi District being the most vulnerable district of the NCT of Delhi, adequate pre-disaster measures in mitigation, prevention and preparedness will have to be taken, both for the community and the first responders. These are recommended to be undertaken by the East Delhi District Authority and the East Delhi Municipal Corporation. A study on microzonation is recommended to be undertaken by a renowned institution like IIT Roorkee, Wadia Institute of Himalayan Studies and Himalayan Institute of Remote Sensing.

10.2.3 HOUSING PATTERN Although most of the houses in East Delhi District are made of reinforced concrete cement structures, they are not made as per the National Building Code. Initially, lifeline buildings, like hospitals, police stations, DC Office, etc., in the district need to be identified through Rapid Visual Assessment by East Delhi District Authority or by East Delhi Municipal Corporation. For this engineers in East Delhi Municipal Corporation, Public Works Department and Delhi Development Authority should be got trained for Rapid Visual Assessment from IIT Bombay/ IIT Madras. No new buildings should be allowed to come up which do not conform to the National Building Code specifications. A well organized general awareness programme is recommended to make the community aware of the need and how to get their houses retrofitted to make them withstand the perceived magnitude of earthquake.

10.3 KNOWLEDGE ABOUT DISASTERS
10.3.1 SOURCES OF LEARNING - It were found that although more than 80 per cent of the responders knew what disasters were, their knowledge was shallow as they could not elaborate what disaster meant. One-third of the sample responders learnt about the disasters in schools where the Central Bureau of Secondary Education mandated teaching of disaster management
since 2004. An interesting input was that the housewives learnt about disasters from the internet ten times more than the males. The general awareness programmes should thus be multi-pronged and non-formal, like competitions, cable channels, SMSs, street shows, documentaries etc.

10.3.2 PERSONAL EXPERIENCE - Female respondents had more than 100 per cent experience in natural disasters over their male counter-part, whereas males had an edge over the females in managing man-made disasters. Those who have experienced disasters should be identified and requested to share them during the capacity development programmes organized by RWAs, NGOs and the East Delhi District Disaster Management Authority.

10.4 MITIGATION MEASURES
10.4.1 MAKING LIVING AREAS SAFE - Although the respondents knew that their houses should be safe from natural disasters, they did not know how to strengthen them. In the capacity development modules for the community some lessons on National Building Code and retrofitting and whom to approach should be included. These technical lessons should be taken by the experts.

10.4.2 OTHER MITIGATION MEASURES. AT FAMILY LEVEL - Two third of the respondents knew what measures to be taken in their houses for risk reduction against earthquake disasters. The aspect of actions required to be taken in the house hold and office area, before, during and after a disaster, should be included in the capacity development programs.

10.4.3 FAMILY KIT - A large number of responders -of East Delhi District said that there should a family disaster management kit. More than one third of them did not have any clue about the family kit. Two third of the responders could not identify even one item in the family disaster management kit. Three to four sessions should be included on the need to have a family disaster management kit, its contents and uses to be included in the capacity development programmes.

10.4.4 EMERGENCY CONTACT NUMBERS - Fifty per cent of the responders did not know the emergency numbers to contact in case of an emergency. It is interesting to know that more
number of females knew about these emergency numbers than their male counter-parts. The Central Government should expedite to have only one common number for all types of emergencies/disasters like 911 in USA. Emergency numbers of the district disaster control room, child related, women related and senior citizen related emergency numbers should be made known to the public through means of electronic and print media and displayed at prominent places along the roads and in shopping complexes.

10.4.5 ROLE OF RESIDENT WELFARE ASSOCIATIONS IN DM - Resident’s Welfare Association play a very important role in risk reduction through mitigation measures and management of disasters till the first responders arrive. Almost half of the responders knew about the existence of the RWAs in their locality, with females outnumbering the males by 4 per cent in their knowledge. Just over one third of the responders knew that their RWAs had a disaster management plan, whereas one third of the males had knowledge about the disaster management teams in their RWAs. Four-fifth of the females did not know about disaster management teams in the RWA. Knowledge about the conduct of mock exercises was hazy, leading to conclusion that these were being conducted in an erratic and irregular manner. Only one-third of them said that they had taken part in any mock exercise conducted by the RWAs and district authorities. It was revealed that less than one third of them had played an active role in any mock exercise.

10.4.6 DM TEAMS - It is recommended that formation of RWAs should be mandatory in every colony and each RWA must have a Disaster Management Plan, based on the District Disaster Management Plan. Each RWA should have the following basic disaster management teams –

   a) Early Warning Team
   b) Search & Rescue Team
   c) First Aid Team
   d) Security Team
   e) Relief Team (To be operationalized after a disaster)

10.4.7 EVALUATION OF DM PLANS - The Disaster Management Plans should be evaluated through regular mock exercises and conducted at least twice in a year on the perceived disasters. One of these exercises should be conducted by the district authorities. Besides the disaster
management teams, the community should take part actively in these mock exercises to learn about disaster management. Conduct of mock exercise should also be included in the modules for capacity development for the community.

**10.5 PREPAREDNESS**

It is a well-known fact that community is the first to be affected and also the first responders in any disaster. More than half of the males and two-thirds of the female responders were of the similar opinion. The training to the community has to be a formal one and a comprehensive module has to be evolved for training the community. The training should be imparted by the experts and the district authorities. However, NGOs, Fire and Emergency Services and Police could also be involved in imparting training in their respective fields. As regards funding all three main stakeholders, like community, district authorities and corporate sector should contribute.

**10.6 CAPACITY DEVELOPMENT MODULES**

10.6.1 FOR TRAINING IN SCHOOLS - More than eighty per cent of the responders were of the opinion that training of disaster management in East Delhi schools was not satisfactory and the system needs to change. Training should be imparted giving theoretical inputs, conducting seminars by experts, demonstrations by professional services like Red Cross, NDRF and Fire and Emergency Services etc. Mock exercises should be conducted twice in a year in all schools and each school should make a comprehensive disaster management plan. The schools should also take into consideration the Hon’ble Supreme Court directions in their judgment dated 13 April 2009 on School Safety.

10.6.2 DM TRAINING FOR WORKING CLASS - Training on disaster management at the workplace should be imparted in a comprehensive module to include theory and practical classes at the convenient timing before, during and after office hours by the experts. The training should include the conduct of mock exercises and every work place should have its disaster management plan.
10.6.3 DM TRAINING FOR RETIRED PERSONS AND HOUSE WIFE - Training should be conducted through comprehensive capsules on general awareness programs at RWA level, screening of films and documentaries and by organizing mock exercises periodically. Suggested capsules for capacity Building for East Delhi District are attached at Appendices ‘C’ to ‘E’.

a) Module for capacity development in schools – Appendix ‘C’.
b) Module for capacity development for retired persons and housewives – Appendix ‘D’.
c) Module for Capacity Development for working class – Appendix ‘E’.

10.6.4 BEST METHOD OF SPREADING MASS GENERAL AWARENESS AT COMMUNITY LEVEL - There is no one single method of spreading general awareness in the community. It should be a multi-pronged approach, to include all possible methods which should coincide with the local culture and should be in local language.

10.7 ROLE OF COMMUNITY IN VARIOUS PHASES OF DM
The community has a role to play in all phases of disaster management as they are the ones who are affected more and they are the one who have to come back to the normalcy at the earliest. Efforts of all other stake-holders, be it the central and state Govts, district administration, NGOs or corporate sector, should be to empower the community.

10.8 ROLE OF EAST DELHI MUNICIPAL CORPORATION AND EAST DELHI DISTRICT DISASTER MANAGEMENT AUTHORITY
The local bodies as well as the District Disaster Management Authorities have been given the statutory powers in the Disaster Management Act, 2005. In fact, District Disaster Management Authority is at the cutting edge and it is at this level where all the departments and organizations dealing with disasters come under a single authority, i.e., the Deputy Commissioner/ Collector. He or she is mandated to command, control and coordinate all types of disaster management activities at the district level. Besides he or she is the responsible officer for prevention, mitigation, risk reduction and preparedness for perceived disasters. He or she is also tasked to manage rehabilitation and reconstruction phases of disaster, with the aim to build back better after a disaster.
10.9 CONCLUSION
It has been amply brought out in the research work that East Delhi District is the most vulnerable district of NCT of Delhi, to both natural and man-made disasters. Its community is not very educated and hence even the basics of disaster management would have to be included in the capacity development capsules. The first responders, though they know their routine professional tasks very well, they have got limited knowledge of their roles in disaster management. Most of the infrastructure and buildings have not been built as per the National Building Code and are likely to be badly affected if there is a moderate to high magnitude earthquake. Building the capacity of the community and the responders would be a challenging task for the East Delhi District Disaster Management Authority as also East Delhi Municipal Corporation. Various gaps have been identified and the way forward has been suggested to make the East Delhi District disaster resilient. If the prototype capacity development programs as suggested prove successful, the same can be replicated in other districts of NCT of Delhi in the short term and in the remaining districts of India in the long term.

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