

Lucknow City Consultation on Urban Earthquake Vulnerability Reduction Strategy

A step towards Awareness Generation, Preparedness and Mitigation

13th January, 2004



Organized by
Lucknow Development Authority

In coordination with
The Revenue & Relief Department, Govt. of UP



URBAN EARTHQUAKE VULNERABILITY REDUCTION PROJECT
GOI-UNDP Disaster Risk Management
Programme



Lucknow City Consultation on Urban Earthquake Vulnerability Reduction

Organized by LDA in coordination with The Relief & Rehabilitation Department, Govt. of UP

A REPORT

BACKGROUND:

The Vulnerability atlas of India denotes that about 65 per cent of the land area of India is liable to seismic hazard damage. Some of the most intense earthquakes of the world have occurred in India but fortunately, none of these have occurred in any of the major cities. Indian cities are growing at exponential rates. It is estimated that by 2025 the urban component, which was only 25.7 per cent in 1991 will be more than 50 per cent. The increasing urbanization and metropolitanisation means that some of the urban agglomerations accommodate more than 10.0 million people and the numbers will continue to grow. Such trends in the Indian demographic scenario coupled with the construction of man-made structures often poorly built and maintained, subject cities to greater levels of risk to life and property in the event of an earthquake.

Uttar Pradesh lies in the Gangetic Plain. This is a fore-deep, a downwarp of the Himalayan foreland, of variable depth, converted into flat plains by long-vigorous sedimentation. This is known as a geosyncline and the Gangetic Plain is the Indo-Gangetic Geosyncline. This is bounded on the north by the Himalayan Frontal Thrust and has shown considerable amount of flexure and dislocation at the northern end. The floor of the Gangetic trough (if seen without all the sediments) is not an even plain, but shows corrugated inequalities and buried ridges (shelf faults). Beneath Uttar Pradesh run the Delhi-Haridwar Ridge (DHR), trending NNE-SSW along New Delhi to the Gharwal region. The Delhi-Muzaffarnagar Ridge (DMR), which trends east to west extends from New Delhi to Kathgodam. The last ridge is the Faizabad Ridge (FR), which runs in a curved manner, first east to west from Allahabad to Kanpur and then bends north-east towards Lucknow and towards the Himalayas in Nepal. Apart from these there are east-west running tear faults in the region that control the courses of the main rivers.

The Ministry of Home Affairs (MHA), Government of India and United Nations Development Programme (UNDP) have jointly initiated the Disaster Risk Management (DRM) programme to strengthen capacities at all levels for natural disaster risk management in 169 most multi-hazard prone districts in 17 selected states. The **Urban Earthquake Vulnerability Reduction (UEVR)** initiative in 38 cities (with a population

exceeding five lakh *and* falling in Seismic zones III, IV and V) of India is an important component of the overall DRM programme. Uttar Pradesh is one of the states where the programme is being implemented in 13 multi hazard prone districts and the UEVRP would be carried out in six cities such as **Lucknow**, Kanpur, Bareilly, Varanasi, Meerut and Agra.

Programme Brief:

Lucknow city is located in the seismic zone III and is one of the most populous cities in Uttar Pradesh. Majority of the construction in Lucknow is not earthquake resistant and the levels of preparedness toward coping with impact of earthquakes are very low. This clearly indicates lack of awareness and systems to ensure proper design to resist earthquake forces and inadequate understanding amongst the administrators, professionals and communities on earthquake resistant construction and seismic strengthening of existing buildings. Therefore, there is a need to generate awareness on the possible mitigation measures that can be adopted to reduce losses in case of an earthquake as well as establish systems that would ensure compliance to building codes. Similarly, there is a need to strengthen the systems for response by involving various stakeholders.

In order to discuss some of the challenges pertaining to earthquake vulnerability, Lucknow Development Authority (LDA) had organized a one-day consultation on Urban Earthquake Vulnerability Reduction Strategy for Urban Development Authority, Municipal Corporation and various stakeholders of the city. The objective of the consultation was to initiate stocktaking exercise for the Lucknow city in terms of preparedness of Governments, Municipal Bodies, communities as well as other stakeholders. This would help to assess and formulate a strategy for the level of awareness on earthquake risk, mitigation methods, techno-legal frameworks to support risk reduction and finally, systems to mainstream earthquake risk management into regular training and capacity building of government functionaries as well as practicing engineers and architects. It would also discuss ways to promote community based earthquake mitigation and preparedness plans in collaboration with Governments and other stakeholders, to create a culture of prevention.

Rationale of the Consultation:

Though floods and cyclones can be predicted to a large extent, present day technology cannot predict seismic tremors, which often strike when the community is neither prepared nor alert. In order to reduce the vulnerability to earthquake and to minimize the

losses from earthquakes through a holistic approach involving prevention, mitigation and preparedness, this one-day consultation aims at:

- Generating awareness about preparedness measures among the policy makers, administrators who enforce the policies/regulations, professionals in the construction industry and communities at large.
- Advocating formulation and enforcement of building codes
- Promoting retrofitting for strengthening of existing buildings to make these earthquake resistant
- Evolving systems for specialized Emergency Support Functions
- Formulating City Disaster Management Committee (CDMC) and the Emergency Support Functions (ESFs) for better response and coordination during emergencies

This city level consultation was the first in a series of city level consultations for the formulation of City Disaster Management Committee (CDMC) and the Emergency Support Functions (ESFs), planned to be held in other five cities under the UEVR programme. This consultation also marked the beginning of a combined effort by participants from all walks of life including experts from subjective fields who shared in their insights and experiences in Earthquake related issues.

Participants:

Participants who shared their significance inputs and ideas came from various sectors

- Lucknow Development Authority
- Departments of the Municipal Corporation
- UP Housing and Development Board
- Urban Local Bodies (ULBs), Engineering and Architecture Colleges, Public Works Department, Civil Defense, Police Department, Fire Department, Health Department, Financial Institutions, Department of Telecommunication, Nehru Yuva Kendra, Lions Club, Rotary Club etc
- Private Builders, Architects, Real-Estate firms, Practicing Engineers, Contractors, NGOs, Training Institutions, School Associations etc.

{Annexure I: Participants List}

Resource Persons:

Resource Faculty

1. Dr C V R Murty (Professor, Dept. of Civil Eng. IIT Kanpur)
2. Ms Aparna Kanda, Programme Associate Delhi, GoI-UNDP
3. Mr. G. Padmanabhan, Emergency Analyst, GoI-UNDP
4. Representatives of Mumbai Fire Services
5. Uttar Pradesh Fire Service Department

The Process:

The consultation was held at Lucknow Development Authority, Lucknow on 13th January 2004, Lucknow from 10.00 a.m to 6.30 p.m.

The consultation was designed into two parts-the initial session included the inaugural address, which was followed by the movie "Surviving Nature's Fury" by TIFAC. This movie had made a good impact in terms of sensitization of all the participants. Most of them had made a demand for the CD of this movie.

The first session was started with the presentation of Ms Aparna Kanda, Programme Associate Delhi, GoI-UNDP. She concentrated on the formation of the City Disaster Management committee and the Emergency Support Functions (ESF) to cover the objectives of the programme.

The second session was started with the presentation of Mr. G. Padmanabhan. He spoke about the national initiatives of GoI-UNDP Disaster risk Management Programme. This was followed by the presentation of Shri P. K. Rao, Deputy Director, UP Fire Services.

The Third session started with the presentation of Prof C. V. R. Murty, Department of civil Engineering, IIT Kanpur. In his presentation Prof. Murty illustrated how Lucknow, which has been identified as one of the 38 earthquake prone cities, must awaken to the imminent danger of an earthquake. This was followed by the presentations by the officers of the Bombay Fire team. Mr. A.D. Jhandwal, Chief Fire Officer, Bombay and Mr. P.S. Rahanddale, Station Officer gave a presentation on "Challenges of Emergency support Functions and the Strategy for fire services in Disaster Management".

The concluding session was done by Shri Manoj Singh, VC-LDA and Shri Sanjay Bhoosreddy, special secretary housing. Both agreed to organize a State level workshop to implement the framework of the programme in all other Cities. They suggested that it should be a coordinated effort of all the departments under one umbrella.

PROCEEDINGS:

SESSION I

INAUGURAL SESSION

The consultation commenced with the registration of 90 participants. The welcome address was given by Shri S. P. Singh, Municipal Commissioner, Lucknow. In his address he stressed upon the need of creating awareness among the public and precautions to be taken during a disaster. He said that the person who cannot be trained should be tamed and a concept of welfare should be adopted in the state. He also showed a deep concern on the mushrooming growth of multistoried buildings in the city.

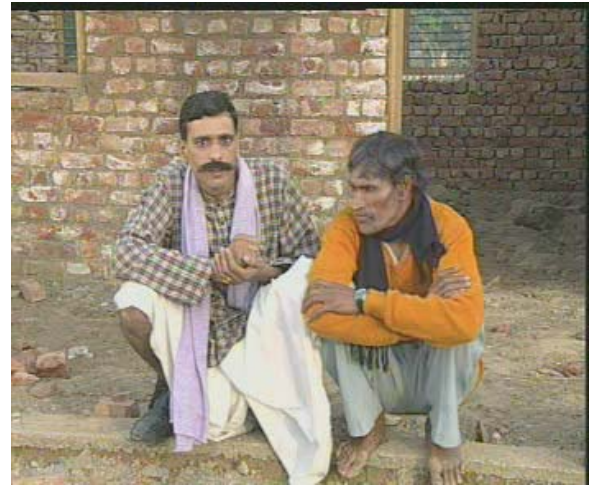
The keynote address was given by the Shri. Sanjay Bhoosereddy, Special Secretary Housing Department. In his speech he highlighted the work done by the Uttar Pradesh in the field of disaster management and stressed upon the need of minimizing earthquake mitigation and response time. He said that a number of workshops and seminars would be held in future to create awareness about the various disasters and how to cope with such disasters. He said that the main objective behind the entire exercise was to minimize the risk factor in case of any disaster. He also laid stress on reducing vulnerability to hazards by advance planning of prevention and mitigation of disasters to the extent possible.

Shri S. P. Singh, MLC and Founder of Lucknow Public schools gave the Vote of Thanks. He appreciated the Lucknow Development Authority for taking the lead role in such activities and stressed on the need for such seminars on regular intervals. In his address he laid stress on the earthquake resistant design of important buildings especially of schools. He also stressed on the need of awareness about the important precautionary measures among the communities.

Movie "Surviving Nature's Fury" by TIFAC.

In the first hour of the workshop, "Surviving Nature's Fury" A movie by TIFAC was shown. This movie had made a good impact in terms of sensitization of the participants. The very basic questions, which were asked by famous actor Naseeruddin Shan in the movie like Why do earthquake happen? How can we protect ourselves? What must we do to minimize the damage? Moreover, if the answer to these questions can save us

from losing precious innocent lives then do we need any more reason for learning? Did very good sensitization of the participants.



The movie also contains very good information on all the important aspects of Earthquakes like earthquake resistant features of masonry buildings, RCC buildings, retrofitting techniques, important codes used to design earthquake resistant buildings and important Do's and Don'ts which have to be followed during the earthquake.

Presentation I:

'The Need for a DM Framework in Urban Areas'

The first session was started with the presentation of Ms Aparna Kanda, Programme Associate Delhi, GoI-UNDP. She concentrated on the formation of the City Disaster Management committee and the Emergency Support Functions (ESF) to cover the objectives of the programme. Special Secretary Housing Shri Sanjay Bhoosreddy was present in that session and he gave valuable inputs for the implementation of the programme and the formation of the Emergency Support functions (ESF) for the city. Almost all the participants from various departments gave their valuable inputs for the formations of teams and their members, which could be used for pre and post disaster activities.

She described the need for a DM framework in urban areas.

- Multiplicity of institutions: varied command, control and co-ordination structures
- Lack of clarity of roles and responsibilities unlike rural areas
- Highly vulnerable urban housing and public infrastructure
- Unplanned growth: inaccessibility of areas for response, lack of organized preparedness efforts
- Inadequate attention to mitigation and prevention of disasters (urgent need to assess safety of lifeline structures and essential installations, etc.)

Presentation II:

'National initiatives of Gol-UNDP Disaster risk Management Programme.'

The second session was started with the presentation of Mr. G. Padmanabhan. He spoke about the national initiatives of Gol-UNDP Disaster risk Management Programme. He explained the following

- National Disaster management framework
- Catalyzing policy initiatives under Gol-UNDP DRM programme
- Training and capacity building in DRM
- Awareness campaign
- Partnership with corporate sector
- Techno legal regime

Presentation III:

'Experiences of UP Fire Services in dealing with Emergency Situations'

Shri P. K. Rao, Deputy Director, UP Fire Services gave a presentation on the need of HAZMAT Appliance and stressed on the need of search and rescue equipments. He also urged a need for the promotion of research activities so that the equipments we borrowed from others countries can be developed in our own county by using local material. He also displayed his self-made camera, which can be used for search operations. According to Mr. Rao, it's cost about 15 lakh to buy such camera from Japan and other countries but if we use local material such camera can be developed in only 1-1.5 lakh rupees.

Presentation IV:

'Challenges in Earthquake Hazard: Preparedness, Mitigation and Response in Urban Development Context'

In his presentation Prof. Murty illustrated how Lucknow, which has been identified as one of the 38 earthquake prone cities, must awaken to the imminent danger of an earthquake. In his presentation he did a comparison of the potential danger and vulnerability, of Lucknow and Ahmedabad. He said that Risk assessment data reveals that Ahmedabad sitting on the Sabarmati Basin comes in the seismic zone III and was

at a distance of approximately 225 Km from the epicenter of the Bhuj earthquake. With Himalayas sitting in the backyard and having in the Ganga-Gomti basin, Lucknow is also in seismic zone III and the tectonic activities caused by the collision of the Eurasian and Indian Australian Plate, the city is nearly 200 Km from a major sequence of fault line. He also told about the seismic gap in the Himalayan region just above the State of Uttar Pradesh. He told in bold letters that earthquake will sure have to come and it is now on us how quickly we adapt ourselves to safe constructions practices.

Presentation V:

'Challenges of Emergency Support Functions: Strategy for Fire Services in Disaster Management by Representative of Mumbai Fire Services Department'

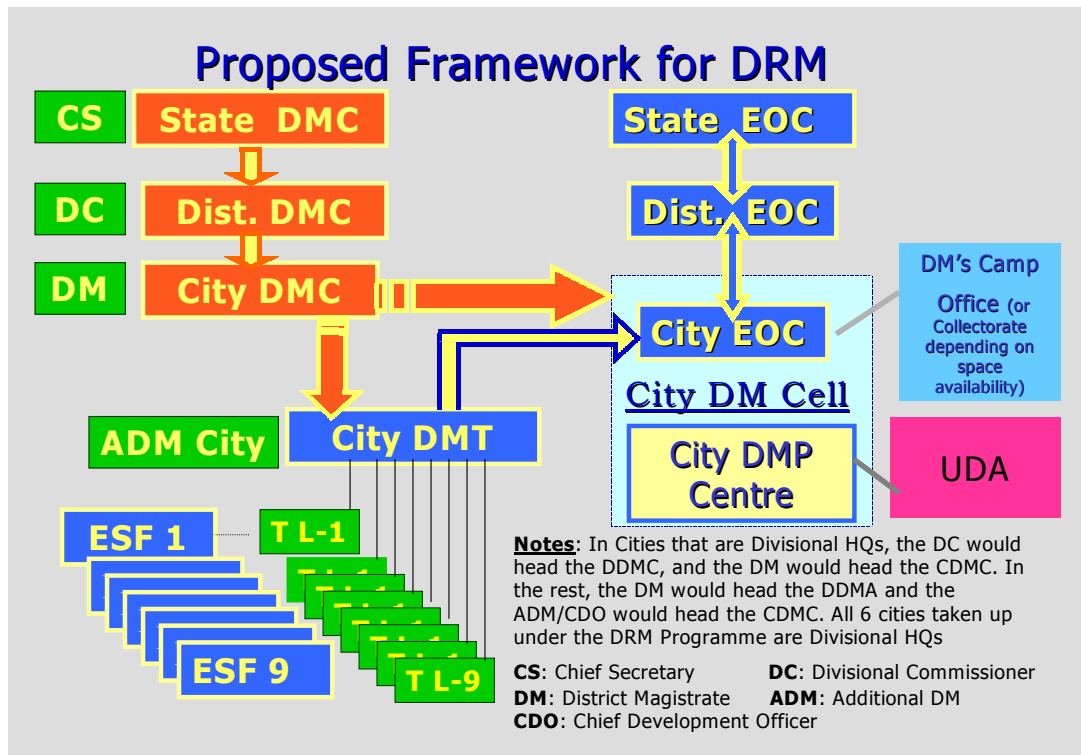
Mr. A.D. Jhandwal, Chief Fire Officer, Bombay and Mr. P.S. Rahanddale, Station Officer gave a presentation on "Challenges of Emergency support Functions and the Strategy for fire services in Disaster Management". They shared their team experiences by showing movies clippings during the search and rescue operations. They stressed on the need of training of fire teams in all multi-disciplinary activities like maintenance, repairing, first aid etc and the use of responder packs in which they have all the important equipments in one container and this container can be put on any vehicle very easily. They also emphasized on initiatives of TOTs programmes on large scale.

CONCLUDING SESSION

Shri Manoj Singh, VC- LDA and Shri Sanjay Bhoosreddy, special secretary housing, did the concluding session. Both agreed to organize a State level workshop to implement the framework of the programme in all other Cities. They suggested that it should be a coordinated effort of all the departments under one umbrella.

The consultation proved fruitful as it gave a common platform to government and non-government organizations to share their issues and concerns related to Lucknow city. Most importantly, as a result of open discussion amongst the stakeholders, an implementation framework is created to achieve the goal of sustainable risk reduction in Lucknow city. It's a long way to go to achieve the project objectives but the process has been initiated. The final framework is given below.

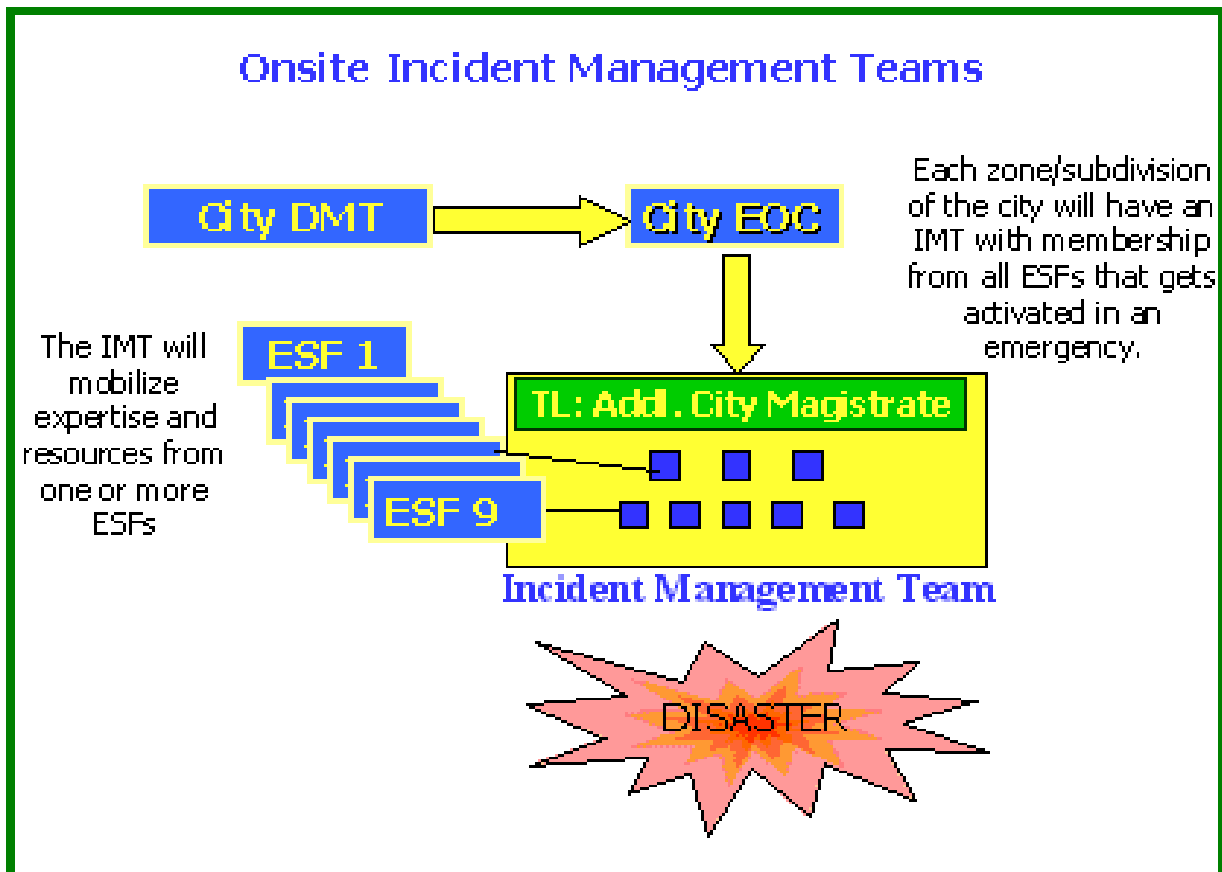
Proposed Framework for DRM



Emergency Support Functions

ESF 1	Communication
ESF 2	Evacuation, S & R
ESF 3	EMR, Dead bodies/Animal Carcass disposal
ESF 4	Relief (Water-Food-Shelter)
ESF 5	Logistics, Electricity-Water-Transport
ESF 6	Road & Debris clearance
ESF 7	Awareness Generation & Information dissemination, Help lines, Media links
ESF 8	Coordination
ESF 9	Law & Order

ESF	Function	Team Leader	Suggested Members
ESF 1	Communication	SSP/SP	Ham Operator Clubs, existing wireless operators (Police, Fire, Revenue) Telecom Dept., mobile operators, FM Radio, Signals Regiment - Army
ESF 2	Evacuation, S & R	Urban Area – Fire Officer	Fire, Police, Civil Defense, Health, NCC, NYKS, Zilla Sainik Board
ESF 3	EMR	Chief Medical Superintendent (senior most)	Hospital, Ambulance Service, Blood Bank, Red Cross, NSS, Rotary Club, Lions Club, IMA
ESF 4	Relief (W-F-S)	ADM (Food and Civil Supplies)	Civil Supplies Corporation, private suppliers, Additional Municipal Commissioner, In-charge of Jal Sansthan, Education Dept.
ESF 5	Logistics, E-W-T	ADM City	City Magistrate, Dept. of Power, Dept. of Transport, Jal Sansthan, Private services, AAI, NER, NR, SRTC, PWD
ESF 6	Road Debris clearance	Municipal Commissioner	Municipal Corporation, NCC, Zilla Sainik Board, LDA, Divisional Forest Officer, Army, PWD
ESF 7	Awareness Generation, Help lines	UDA	DAVP, EOC, NGOs, Media (print/audio-visual), NSS, Scouts & Guides, Education Dept., National Green Core, IIA, IEI, UPREDCO
ESF 8	Coordination	DM	Police, UDA, Municipal Corporation, CMS, Civil Defense, NGOs, NSS
ESF 9	Law and Order	ADM City	Dept. of Home, DM, Civil Defense, Home Guards, City Magistrates



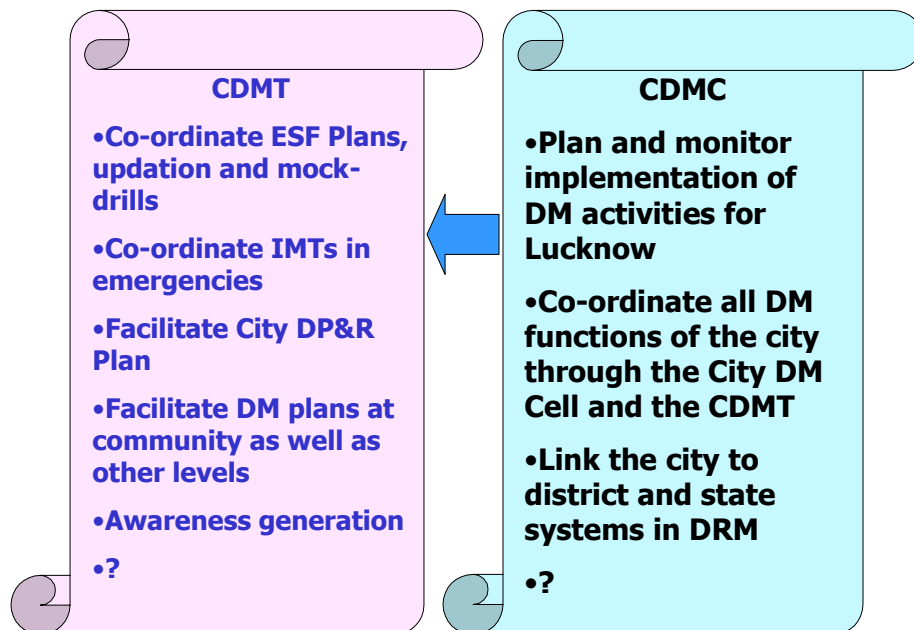
Emergency Operations Centre

- 24 hour control room
- Info dissemination and helpline
- Individual ESF Plans
- City Preparedness and Response Plan through the CDMT
- Updation and mock drills
- Others

DM Planning Centre

- Awareness Generation
- Systems for Compliance and Enforcement (Techno Legal Framework)
- Training and Capacity Building, Material
- Mitigation Planning
- Others

The EOC located at the Municipal Corporation would have dedicated staff either attached or on deputation and posted from NIC, Relief Dept., Municipal Corporation, Police Wireless, etc. or posts would be created. The functions of the DM Planning Centre located at the UDA would be facilitated by the UDA Board.



City DM Committee

•Chairperson: DM

•Vice Chairperson: VC – UDA

•Members:

–Mayor (or his nominee - non official from Municipal Corporation)

–City MLA

–City MP

–Municipal Commissioner

–Chief Medical Superintendent (senior most)

–Executive Engineer - Irrigation Department

–Urban Area Fire Officer

–Police Commissioner

–Head of a Training Institution (ATI, IIT, etc.)

–Technical Experts as needed

Other experts/officers needed may be co-opted or brought in as special invitees.

Immediate Steps:

- LDA – DM – LMC to finalize the framework by 31st January 2004
- Members of ESFs to be finalized and 1st meetings to be convened before end February 2004
- ESF Plans to be finalized by CDMT and approved by CDMC

LIST OF PARTICIPANTS IN THE CONSULTATION

UNDP		
Sri G. Padmanabhan	Emergency Analyst, UNDP	011-24331425, 24332388, Fax: 24331334, 24330088 9810402937
Sri Aslam Perwaiz	Project Analyst, UNDP	011-24331425, ® 22785771 9810707399
Smt. Aparna Kanda	Programme Associate UNDP	011-24331425, 9818241445
Rehan Raza Khan	Project Officer UP	3819648
Suvit Srivastava	IT Facilitator	
Anuj Tiwari	Consultant	
Jnanjan Panda		
Relief Deptt.		
Sri T. P. Pathak	Spl. Secretary, Rev and Relief Dept, Govt of UP	(o) 2239541, ® 2303820
Sri H. K. Tripathi	Joint Secretary, Rev and Relief Dept, Govt of UP	Section 11, (o) 2235116
Sri Rakesh Kumar	Under Secretary, Rev and Relief Dept, Govt of UP	2235116
Sri P. N. Tripathi	Section Officer, Rev and Relief Dept, Govt of UP	2235116
Sri Arun Srivastava	UDA, Relief Section, Secretariat	2235116
Sri Ram Swaroop	UDA, Relief Section, Secretariat	2235116
Sri Ambrish Singh	UDA, Relief Section, Secretariat	(o) 2235116, 05223119623, 05248360469
DM Office Lucknow		
Dr. Navneet Kumar Sehgal	DM, Lucknow	(o) 2223024, 2225653 ® 2623912, 2214700 (M) 9415005000 Fax: 2285599 (O) Fax: 2285599
Sri Satyendra Kumar Singh	ADM, Food and Supply, Lucknow	2229288, 9839014641
Sri C. K. Pandey	ADM, Trans Gomti, Lucknow	2210170, 9839014643
Sri V. K. Rai	ADM, West, Lucknow	
Sri S. K. Singh	ADM, Finance and Revenue, Lucknow	2229291
Sri Ajay Deo Singh	ADM City (East), Lucknow	
Sri N. P. Singh	ADM (E), Lucknow	2222627
Sri Rajiv Ranjan Verma	SSP, Lucknow	(o) 2228965, ® 2225983 Fax: (o) 2274204, ®2225984
Sri N.C. Shukla	Chief Development Officer, Lucknow	(o) 2381218, ® 2398813

			Fax: 2381690
	Sri J. P. Yadav	Chief Medical Officer, Lucknow	(o) 2622080, ® 2303793
	Sri Vishnu ji Srivastava	ACRA, DM Office, Lucknow	9415014007, 05223126831
	<u>Municipal Corporation</u>		
	Sri Sri Prakash Singh	MC, Lucknow	(o) 2622440, ® 2283731
	Dr. S. C. Rai (Nagar Parmukh)	Mayor, Lucknow	(o) 2222698 ® 2387875, 2330066
	Sri Rajender Prasad	ADM, Municipal Corporation, Lucknow	(o) 223164
	Sri. R. N. Pal	ADM, Municipal Corporation, Lucknow	(o) 2620297
	Sri B. N. Mishra	Chief Engineer, Municipal Corporation, Lucknow	(o) 2224053
	UP Housing and Development Board		
	Sri Kamran Rizvi (IAS)	Ad. Housing Commissioner UP Housing & Dev Board	(o) 2216178, 2229598 ® 2204231
	Sri Virender Kumar	Chief Engineer	(o) 2215084
	Sri Subodh Shankar	Chief Architect Planner	(o) 2381440
	Er. K. N. Khulbe	SE III Circle. UP Housing & Dev Board	
	Er. Roop Chand	EE, CD-19, UP Housing & Dev Board	
	Er. V. N. Dixit	EE, CD-31, UP Housing & Dev Board	
	Er. C. K. Jain	EE, HQ, UP Housing & Dev Board	
	Sri C. K. Harde	Senior Arch. Planner, UP Housing & Dev Board	
	Sri Sarfaraz Ahmed	Arch. Planner, UP Housing & Dev Board	
	Housing Department		
	Sri J. S. Mishra	Housing, Secretary, Govt of UP	(o) 2237161, ® 2398077
	Sri Sanjay Bhusreddy	Special Secretary, Housing, Govt of UP	(o) 2237287, ® 2237713
	Sri N. R. Verma	Addl. Director, Housing Dept	(o) 2622941, 2227021
	Sri S. K. Verma	Consultant, Housing Dept	(o) 2622941, 2227021
	Sri P. C. Malhotra	Consultant, Housing Dept	(o) 2622941, 2227021
	Sri N. K. Johri	Asst Director Planning, Housing Dept	(o) 2622941, 2227021
	Sri A. K. Mishra	Asst Director Technical, Housing Dept	(o) 2622941, 2227021 ® 2352242, Fax: 2212098
	Sri Anil Tiwari	Addl. Director System, Housing Dept	(o) 2622941, 2227021 ® 2738532
	Fire Department UP		
1	Sri Tilak Kag	Director General Police (Fire Service)	
2	Sri P. K. Rao	Dy. Director, UP Fire Service HQ	(o) 2387235 (M) 9515016657
3	Sri J. K. Singh	Chief Fire Officer (Hazrat Ganj)	(o) 2614444, ® 2228222

			(M) 9839182811
4	Sri S. S. Banerjee	Add. DG (Fire Service)	
	School Associations		
	Sri Jagdish Gandhi	Founder Manager, City Montessori School	2229798/2215483
	Sri S. P. Singh	MLC, Founder Manager, Lucknow Public School	
	Sri Jai Pal Singh	Manager, RLB School	
	Private Consultants and Architects		
	Sri Rajeev Goyal	Acmetech Consultants Pvt. Ltd., Lucknow	2788020
	Sri Jitender Tripathi	President, Lucknow Architect Association	3103157
	Sri Anupam Mittal	Secretary, Lucknow Architect Association	2206400
	Sri S. K. Garg	Chairman, UP-RDECO, Lucknow	
	Sri Ashok Kumar	Architect, Lucknow	2228777
	Sri Samir Chaturvedi	Architect, Samir & Associates, Lucknow	2217724
		Akar Interiors, Lucknow	2270129
	Sri Abhishek Srivastava	Narmada Architectural System Ltd., Lucknow	2648994
	Sri Subroto Rai Sri I. Ahmed Sri Asad	Chairman Sahara Group Sahara Construction, Lucknow Senior Manager, Sahara Group	2396091-95 2333134 2333239, (M) 9415007970
	Sri Manoj Singh	Architect, Gomti Nagar	9415103290
	Sri Rajesh Verma	Architect and Planner	9415004392
	Neeta Das	Planner and Architect	
	Media		
		Editor, Rashtriya Sahara	
		Editor, Sahara Samay	
		Editor, ZEE TV	
		Editor, AaJ Tak	
		Editor India Today, etc	
	Experts		
	Chief Fire officer Bombay	Sri Jhindhala	3076111,2,3 3086181,2,3
	Prof. C. V. R. Murthy	Associate Professor, IIT Kanpur	(o) 0512-2597267 ® 2598636, 2592241 (M) 9839030423 Email: curm@iitk.ac.in

	Others		
	Sri D. K. Singh	Regional Transport Officer, Lucknow	
	Sri B. P. Kureel	Dy Controller, Civil Defence, Lucknow	
	Sri Rajiv Mohan	Scientist-SF & Head, Water Resource Division-I, Remote Sensing application center UP, Sector G, Janki Puram, Kursi Road, Lucknow-226021 <u>Residence</u> : 3/198, Vipul Khand, Gomti Nagar, Lucknow-226010	(o) 0522-361453/54, 360530, 300687 Fax: 0522-2361535, 363125, 363002 Email: rajiva4@rediffmail.com rsacup@sancharnet.in
	Prof. S. K. Dwivedi	Director, Regional Center for Urban and Environmental Studies (RCUES) Lucknow University	
	Prof. M. P. Singh	Geology Deptt., Lucknow University	
	Dr. Joshi	SIRD	
		IIT	
		Babu Banarsi Das Engg College	
		Ram Sawroop Engg College	
		IET	
		Catholic Release Service (CRS)	
		CARE	
		CEE	
		OXFAM	
	SIO, PSA, Sanjay Aggarwal	NIC	
	Mr. Sanjay Ghildyal	IMDUP	
	Lucknow Development Authority		
	Sri Manoj Singh (IAS)	Vice Chairman, LDA Pradikaran Bhawan, Vipin Khand Gomti Nagar, Lucknow-226010	(o) 2302578, 2215152 ® 2303975 (M) 9415019545 Fax: 2393783, 2226386
	Sri Rakesh Verma (PCS)	O.S.D, LDA	(o) 2303623, 2303624 ® 2379861 (M) 3117654
	Sri Vivek Mehra	SE, LDA	(M) 9415005507

